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THE SPHERE

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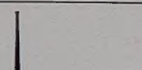

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THE SPHERE

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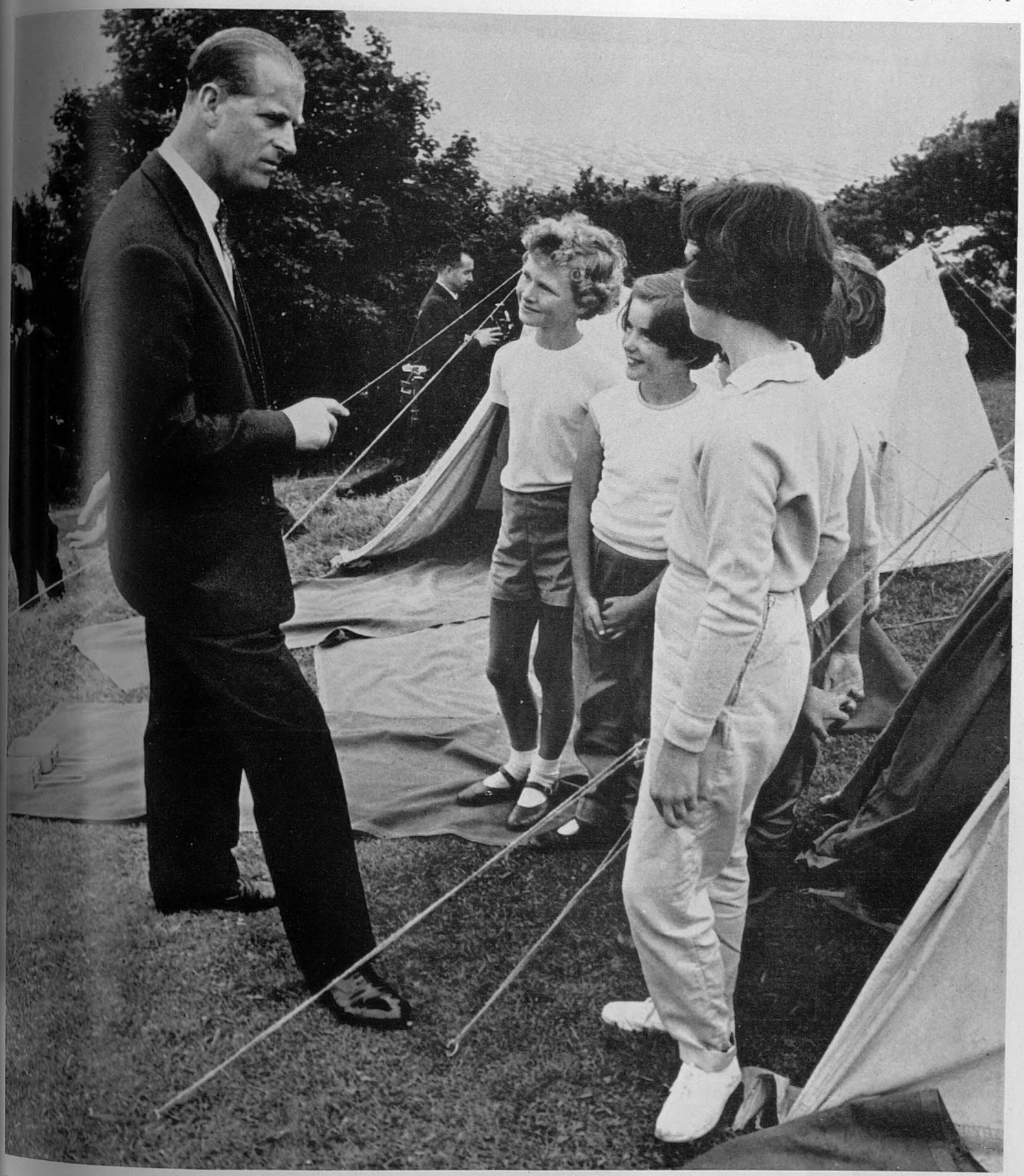
Postage : Inland, 4½d. ; Abroad, 6½d.



The Duke of Edinburgh talks to some of the girls at the Outward Bound Girls' School at Rhowniar, Merionethshire, on the second day of the tour of North Wales by the Queen and her husband. Highlight of the day was the opening by the Queen of the new pumped storage scheme at Blaenau Ffestiniog. The Queen operated a switch which caused the world's largest pumped storage power station to pick up a full load of 320,000 kilowatts in under a minute. (Details of Ffestiniog are on pp. 245 to 247.)

ROYAL VISIT TO NORTH WALES

THE NEWS IN PICTURES

Five years ahead of its time
Britain's advanced new battle tank, the Chieftain, demonstrates its manoeuvrability at the Fighting Vehicles Research and Development Establishment in Surrey

The new First Sea Lord takes office
Admiral Sir David Luce stands in his office in the Admiralty, having taken over as First Sea Lord from Sir Caspar John

Outlining Jordan's position
King Hussein of Jordan heads a procession of his Cabinet Ministers and Service Chiefs as he enters Parliament House in Amman to deliver a speech on the opening day of the first session of the Lower House. Its 60 members were elected on July 6 to replace the Parliament dissolved in April. In his speech, King Hussein outlined Jordan's domestic and foreign policy, calling upon all Arabs to unite. On international affairs, King Hussein reaffirmed his country's support for the U.N. and for the right of self-determination by all peoples. Jordan's precarious position between the two Baathist regimes of Iraq and Syria was further demonstrated last week when the Government arrested a number of the clandestine Baath party members. Jordan would be essential to Baathist plans for Arab Union without Egypt

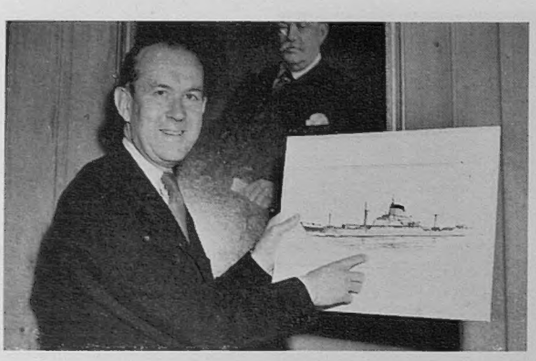
THE NEWS IN PICTURES

Mr Macmillan's official visit to Finland
In Valkeakoski, a paper and pulp centre in Finland, Mr Macmillan acknowledges the applause of the crowd, watched by President Kekkonen (centre), the Finnish President, and Mr J. Walden, Member of the Council of Mines. International relations, particularly questions of Anglo-Finnish trade, were the subject of the talks between Mr Macmillan and Mr Kekkonen at the start of the Prime Minister's four-day visit to Finland last week. He was joined later for the talks by Lord Home, who had arrived in Helsinki from Moscow after signing the Test Ban Treaty. Speaking in a filmed television interview in the Finnish capital, Mr Macmillan said that he was prepared to take part in a summit meeting if he thought it would serve any useful purpose

World Scout Jamboree in Greece
A group of British scouts take photographs on the Acropolis in Athens. They were among the 10,394 scouts from all parts of the world attending the 11-day World Scout Jamboree held at Marathon. From left to right: Erne Everest, from Ruislip, Peter Dixon, of Caterham, Constantino Pekalis, of Luton, and Tony Insall, of Bristol. Great Britain, with 1,498 scouts, sent the largest delegation

Pilgrimage to Omaha Beach
General Eisenhower drives a jeep along Omaha Beach in Normandy. He returned last week to the beaches in Normandy where 19 years previously he had commanded the D-Day landings. General Eisenhower was taking part in a documentary film about the invasion being made by an American television company. It was the first time he had returned to the beaches

THE NEWS IN PICTURES



A boost for the shipping industry

Sir Nicholas Cayzer, chairman of the Union-Castle line, holds up a drawing of one of the two fast, high-powered cargo vessels which the line has ordered from Swan, Hunter and Wigham Richardson. The British firm won the order, worth nearly £6 million, in face of stiff foreign competition. The two vessels are to enter service in 1966

Best Cowes Week for a long time

Sovereign, Britain's prospective challenger for the America's Cup, provides a highlight of Cowes Week. After this ended last week-end, it was agreed to have been the biggest and the best for years. True to tradition, there was a boisterous wind for the finale, the 605-mile race round the Fastnet Rock and back to Plymouth

A figure little seen in Europe

King Mohammed Zahir Shah of Afghanistan waves to photographers on his arrival at Bonn. He and Queen Umairah began an eight-day visit to West Germany last week. King Mohammed succeeded his father, who was assassinated in 1933

Politics in Southern Rhodesia

A police dog lunges at an African supporter of the Rev Ndabaningi Sithole after a mass meeting in Salisbury. Mr Sithole leads a breakaway group from Mr Joshua Nkomo's banned Zimbabwe African People's Party (ZAPU). The new party is the Zimbabwe African National Union (ZANU). It is led by a number of Mr Nkomo's lieutenants

Arms embargo on South Africa

Members of the United Nations Security Council vote on the resolution calling for all states to "cease forthwith the sale and shipment of arms, ammunition of all types, and military vehicles to South Africa." Sir Patrick Dean, representing Great Britain (centre), is abstaining. Last week's vote on motion was nine in favour, none in opposition, and two abstentions

NEWS SUMMARY

Test ban and "chicken war"; The Great Train Robbery in Britain; Malaysia hold-up?

In London Senora Maria del Carmen Gutierrez de Chittenden, the Costa Rican Ambassador, signs the text of the test ban treaty on behalf of her country

INTERNATIONAL

The U.S. Senate Foreign Relations Committee was due to begin its hearings on the nuclear test ban treaty last Monday. (A two-thirds majority of the Senate will be necessary for ratification of the treaty.) First witness before the committee was to be Mr Dean Rusk. The Secretary of State had returned from the U.S.S.R. during the weekend. After the signing of the treaty in Moscow and its attendant celebrations, he had gone to a Black Sea resort for talks with Mr Khrushchev—and a game of badminton. Mr Rusk flew back to Washington by way of Bonn. There he was reported to have overcome West German objections to signing the treaty. It was understood that a formula had been agreed which would allay West German fears regarding the possible position of East Germany as a result of the treaty. West Germany was to have the opportunity of expressing its susceptibilities to Britain in the talks scheduled in London between Herr Schroeder, the Bonn Foreign Minister, and Lord Home.

GREAT BRITAIN

The train robbery of all time took place last week when a masked gang in a raid "planned like a military operation" got away with over £2,500,000 in used bank notes after having held up the Glasgow-to-London mail train. The travelling post office was brought to a halt by a faked red danger signal at Sear's Crossing in Buckinghamshire in the early hours of the morning. The thieves uncoupled the engine and the first two coaches, forced the driver to drive them a mile down the line, and unloaded the mail bags into waiting vehicles. A total record reward of £260,000, including £200,000 from two London firms of loss adjusters, was being offered for information.

At the inquest on Dr Stephen Ward, in London on August 9, the jury returned a verdict of death by barbiturate poisoning, self-administered. He had been found guilty on two counts in his trial at the Old Bailey but had not been sentenced. Questions arising from the trial and from the decision of the Court of Criminal Appeal in the "Lucky" Gordon case have been aired, urging inquiries into police procedure and into that of the Court of Criminal Appeal. In the "Lucky" Gordon case, the Court took cognizance of certain further information, which it did not make public, and quashed the sentence on Gordon, who had been convicted on a charge of assaulting Christine Keeler. It was thought that these matters might have their place in the report of Lord Denning into security aspects of the Profumo affair.

On a more cheerful note, the National Institute of Economic and Social Research reported that national output was rising at a rate of four to five per cent. and that this should continue over the next 12 months. U.S. orders for British civil aircraft reached the record total of £45 million.

It was reported that Britain's third largest union, the National Union of General and Municipal Workers, was discussing possibilities of merger with a number of other unions. These and other trade union merger talks have gained impetus from the initiative of the TUC. Last week, the 60,000 members of the Typographical Association and the 20,000 members of the London Typographical Association agreed that they would amalgamate.

UNITED STATES

The funeral took place last Sunday of Patrick Bouvier Kennedy, President Kennedy's third child, who died from a respiratory ailment when he was only two days old. He was born prematurely.

The "chicken war" between the U.S. and the European Economic Community has at least benefited Americans, who have found broilers to be as cheap as they have been for years. Last year the EEC increased tariffs on poultry imports to the Common Market countries, which have cut U.S. exports of chickens to the EEC to a third, and resulted in a glut on the U.S. market. Various retaliatory measures have been urged.

Senator Estes Kefauver, a Tennessee Democrat, died last weekend aged 60. He became known to millions watching American TV when he conducted the 1951 Senate investigation into organised crime.

HAITI

A band of invaders made an attempt last week to promote a revolt against President Duvalier's regime. It was believed they were supported by the Dominican Republic, which occupies the other half of the Caribbean island of Hispaniola. Although most of the invaders were killed or captured, some escaped into the hills to start a guerilla war.

MALAYSIA

The Commonwealth Relations Office announced last weekend that the British Government had agreed to allow U Thant's representatives access to North Borneo and Sarawak, where they will ascertain the willingness of the people to join Malaysia. The investigation was conceded by Tunku Abdul Rahman, the Prime Minister of Malaya, after pressure from the Philippines and Indonesia at the recent talks in Manila. Political leaders in the two colonies have protested that the last elections were fairly held, that the main issue was Malaysia, and that the U.N. inquiry was an unnecessary intrusion. Mr Lee Kuan Yew, the Prime Minister of Singapore, has commented that the Tunku could have rejected the demand for an inquiry, but that he wanted to be certain of peace in South East Asia. The Secretary General has assured the British Government that his two five-man teams would carry out their task "with the utmost dispatch." Even so, it was generally accepted that the inauguration of the Federation due on August 31 would have to be postponed.

BURMA

The Revolutionary Council under General Ne Win that rules Burma arrested 11 political leaders last week. It was alleged they had attempted to thwart a negotiated peace the government has been trying to make with a group of rebels. Since independence, Burma has been troubled by demands for regional autonomy.

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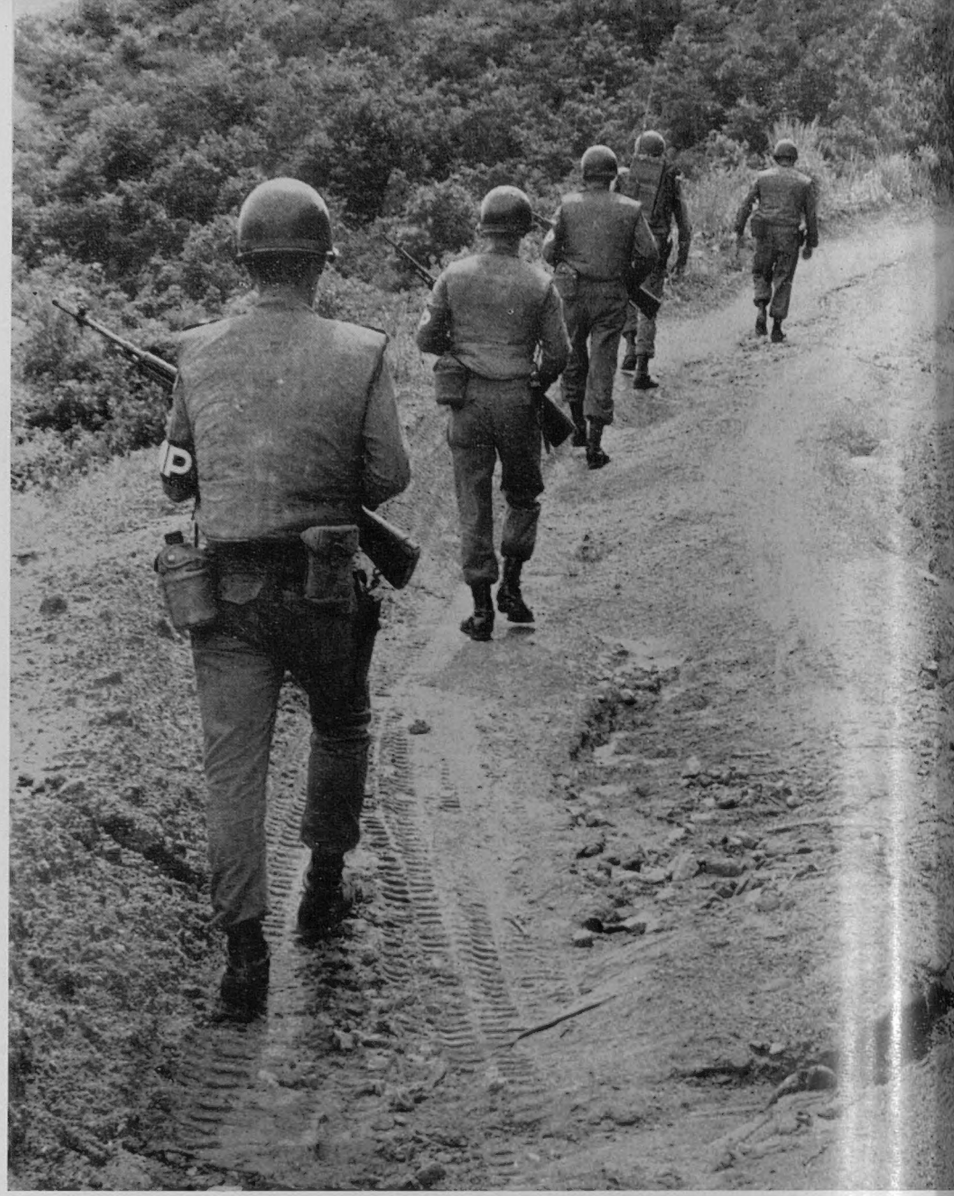
TROUBLES IN THE FAR EAST

With the signing of the Test ban treaty in Moscow and the bitter ideological rift between Moscow and Pekin, the situation in the Far East has become a matter of urgent interest. According to reports from Washington, the U.S. State Department, last week at any rate, was not expecting Communist China to attempt any major aggression, but it did suspect there might be an increase in limited pressure and border incidents. In the past few weeks there have been new Chinese troop concentrations on the Indian/Himalayan borders.

In Korea there were clashes in the demilitarised zone between North Korean patrols and American soldiers of the United Nation's Command. These have occurred throughout the ten years since the end of the Korean War but until last year no American soldier had been killed. Recently Communist activity was stepped up and several American soldiers killed. It was surmised that the North Koreans might be increasing their espionage and subversion to spread dissension during the coming Presidential elections. (North Korea has maintained strong ties with China, ever since Chinese support during the Korean War, but still gets economic aid from the Soviet Union.)

South Vietnam has also seen numerous clashes between American personnel and Communist forces of the Vietcong guerilla movement. Last week 90 Communist guerillas were killed in an ambush by American special forces and South Vietnamese troops in the Camau Peninsula. There is evidence that the American-aided programme of arming villages to resist guerilla attacks has been successful. But while the regime of President Ngo Dinh Diem has thus been strengthened, it has been facing a severe religious crisis. For three months the Vietnamese Buddhists have been campaigning angrily against what they regard as religious discrimination by the Government. President Diem and his family are Roman Catholics. Last week a second Buddhist monk burnt himself to death in Phan Thiet, a fishing port 100 miles east of Saigon. Monks and nuns carried a series of 48-hour hunger strikes in Phan Thiet. In the clashes between demonstrators and troops, Buddhist soldiers had remained loyal to the Government, but the situation was causing grave concern.



Above right: American soldiers in a United Nations patrol move along a rough track towards the demilitarised zone between North and South Korea. The zone, which is about 4,000 yards wide, has been the scene of clashes recently between U.N. patrols and North Korean soldiers

Right: Weapons found after the clashes in the demilitarised zone litter the table during a meeting of the Military Armistice commission in Pammunjon to discuss the incidents. British and American representatives of the U.N. Command are on the left

Left: In South Vietnam, a village militia sentry looks out over his village. In efforts to stem the activities of Communist guerillas many villages have been fortified
Below: Vietnamese troops question villagers after their homes had been burnt by guerillas

Above: President Diem of South Vietnam has been facing widespread Buddhist religious demonstrations. At Phan Thiet, a Buddhist leader addresses the demonstrators
Left: Also at Phan Thiet, Buddhist demonstrators prepare to "sit unto death" to reclaim the body of a monk who burned himself to death last week at the port

TEST BAN TREATY AND AFTER

224 In Moscow there were memorable scenes of reconciliation when the treaty banning tests of nuclear weapons in the atmosphere, in outer space and under water was signed on August 5. Mr Khrushchev, rosy and bemedalled, smiled like a headmaster at a prize-giving. Lord Home spoke with barely controlled emotion of the hope that unborn children may no longer be in danger from man-made poisons in the air. U Thant listened benevolently. The champagne flowed and toasts were drunk, before the foreign ministers of the Soviet Union, the United States and the United Kingdom buckled down to a new round of hard talking.

Meanwhile there poured out from Peking a ceaseless torrent of vituperation. Totally abandoned—by Chinese and Russians alike—is any pretence of trying to paper over the split. The Chinese depict the Russians as heretical traitors to the Communist cause; their indignation is unrestrained. The Russians on their side keep up a facade of pained surprise; according to their newspapers and their radio, they are shocked and distressed at their allies' outlook and behaviour. A conflict hitherto fought out at Party level now involves the leaders of both Governments. Chou En-lai himself signed the letter of July 31, addressed to all heads of governments, and calling for a conference to discuss the idea of " total and resolute prohibition and destruction of nuclear weapons," the dismantling of all military bases on foreign soil, and the establishment of nuclear weapon-free zones in Asia, Africa, Central Europe and South America.

On the same day Peking put out a statement denouncing the 3-Power Treaty as a " dirty fraud " and accusing the Soviet Union of conspiring with the Western nations to consolidate their nuclear monopoly. Russian retaliation to these broadsides was anything but reluctant. A 5,000-word statement, put out by the Soviet Government on August 4, described the Chinese accusations as reeking of hopelessness and pessimism, and claimed that Chou En-lai's suggestion of a conference was simply an attempt to cover up the Chinese Government's refusal to sign a test ban treaty.

What lies behind this wrathful war of words? Chiang Kai-shek's Ambassador in Washington, Tinfu F. Tsiang, has argued that Mao is challenging Khrushchev as a Communist, not as a Chinese nationalist, and that what is at stake is the leadership of the international Communist movement. He holds that Mao wants to play a bigger role than Russia has ever allowed him to play, and wishes to pursue a more openly bellicose policy than Moscow has at present any desire to adopt. These seem to me accurate deductions, although—even during the peak period of fraternal and comradely amity—there have always been great areas of Sino-Russian mistrust and dislike. In economic relations, for example, the Chinese have now disclosed how bitterly aggrieved they have felt at the way in which the Russians have cancelled contracts and withdrawn aid; and their resentment, on the face of it, would appear to have considerable justification; though (as Tinfu F. Tsiang has been careful to point out) this story probably has two sides to it.

What are the Chinese going to do now? It is unlikely that they will resign themselves to watching the Russians and the Western Powers genuinely and seriously trying to work out agreed plans for peaceful co-existence; their contempt for this principle is as tenacious as it is vehement. They will do everything they can, I believe, to demonstrate that it is both fraudulent and impracticable. Mr Khrushchev may be right in his comforting forecast that it is still a matter of years before China can produce atomic weapons of her own; he is not, on his record, a man who habitually lets the wish father the thought, but there is no doubt that he is extremely anxious that this lamentable and dangerous development shall not be allowed to occur. In the meantime, however, with merely " conventional " weapons, in the techniques of both hot and cold war, the Chinese will not relax at all, and will make every possible effort to stir up mischief.

The most vulnerable region

The immediately most vulnerable region is, of course, the Indian sub-continent, though friction is being sedulously encouraged on the border between North and South Korea. It was grimly reminiscent of old times to read of " incidents " at Panmunjom. Trouble between Indonesia and the as-yet unborn Federation of Malaysia can also be expected. But it is the considerable build-up on the border between India and Tibet that is persistently disquieting. It follows with suspicious similarity the pattern of last autumn, but it is happening earlier in the year and must have begun before the monsoon ended.

Delhi, frankly, is pretty jittery. The disastrous outcome of last year's fighting, particularly in the North-East Frontier Agency, is still vividly remembered; and although Mr Krishna Menon is now out of office and likely to stay out, despite rumours that Mr Nehru is hankering to have him back, there is still a good deal of mutual suspicion between the Army and the politicians. This suspicion has roots a good deal deeper in Indian society than is ordinarily admitted—or indeed known—in Britain; but it expresses itself very practically now.

The politicians still nervously insist on India's non-alignment; the soldiers, with their endearing affection for old-fashioned English slang, say that non-alignment is complete tommy-rot. They want all the Western arms and aid they can get, and they are not nearly as fussy as the politicians about possible strings attached. They know, too, that the Chinese are now in a position to launch a new attack, if and when they wish to do so. Are they confident of being able to beat it off this time? From the Americans they have had in the past nine months some £7½ millions' worth of military equipment, including very badly needed road-building and communications machinery: and from Britain enough modern equipment for four out of the six mountain divisions we have promised to rearm. And from the Soviet Union there have lately come offers of ground-to-air and ground-to-ground guided missiles, transport aircraft and modern radar.

This final instalment of help—apparently the Indian delegation which went shopping for it in Moscow made no secret of the fact that it would be employed in defence against a Chinese attack—is extremely interesting, and if the deal is clinched it could have very far-reaching effects. It would be bound to boost the morale of the Indian supporters of non-alignment, by making it appear realistic and unaffected by the receipt of Western military aid. It would be a very practical demonstration of the extent to which the Soviet Union is siding with India in her dispute with China; and it would even further widen the rift between Russia and China.

Is that by now a gulf which cannot be bridged? A good many American political commentators, well briefed I suspect by the State Department, continue to point out that sudden switches and abrupt somersaults are by no means unknown in Communist diplomacy. I would be the last person to deny the force of that argument; but I think that the differences, on all phases of thought and feeling, between the Russians and the Chinese are now so deep and so numerous—as well as so thoroughly publicised in both countries and throughout the world—that an overnight reversal of policy by either regime would endanger its own survival. Mao cannot abandon the stand he has assumed; nor, I believe, does he want to abandon it. He and his colleagues are genuinely convinced that there will have to be a war between the " imperialists " and the Communists; when there is, it will be a nuclear war, and with luck more Chinese will survive than Russians, Americans or British.

Mr Khrushchev has looked a good deal further, because he leads a nation whose economic and social development has gone much further than China's. He also has the bleak advantage of having come, over the Cuba crisis last October, to the very verge of nuclear war; and it is an experience which, quite clearly, he has no wish to repeat, with the added probability that next time the world would stumble over the edge. Is it not this special knowledge, which he shares with Western leaders who control nuclear weapons, which has led him into what the Chinese so indignantly describe as a conspiracy with Mr Kennedy and Mr Macmillan? To contain China is now as much in Russia's interest as in the interest of the United States or Britain.

The prospects opened up by acceptance of this as a fact in world affairs are bewildering; but they are better, surely, than a continued slither towards nuclear war.

Above right: Mr Khrushchev and Mr Edward Heath toasting the partial nuclear test ban treaty in Moscow

Right: The signing of the treaty. Among those behind the signatories (Mr Rusk, Mr Gromyko and Lord Home) can be seen Mr Adlai Stevenson, U Thant and Mr Khrushchev (all in centre) and, right, Mr Heath

A LONDON NEWSLETTER

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226 **Phineas redux?**

Certainly Mr Macmillan deserved his little bit of luck. In the last years, misfortunes have dogged his steps. The Test Ban Treaty came at the psychological moment for him, if at the eleventh hour. It came in time to muzzle his sternest critics and rally his least stout-hearted supporters. That grand old war-horse, the loyal and enigmatical Mr Butler, made it clear that he will "never desert Mr Micawber." And all the political wizards and seers instantly revived the probability of an October General Election. As for Mr Macmillan himself, confidence flowed back to him in a torrent. He chose a new label for the affluent society—"the good life"—and under Tory rule for another spell, we are to have it good and better. We never had it so good as under Tory rule, and never will; but somehow that phrase became shopsoiled. "The good life" has a more dedicated ring about it, suggesting moral leadership. Some of the political prophets and scrutinisers are reviving again the speculation as to whether any other political party commands a personnel from which to draw efficient holders of the now enormous numbers of key posts and vital departments which a modern Government requires. The first seedings of the Socialist "probables" certainly does not suggest a batting side down to No. 11, nor a supply of bowlers for every sort of wicket. As for the Liberals, they could not field a side for a fathers' match at a private school, without drawing largely on outsiders. So, what's the alternative to the Tories? Why swap horses in the mid-stream of prosperity? So argue the rebounding Tories. All the same, I would not advise an October election. Human memory may be short, political reactions are sometimes very sudden. But I fancy the Tories will need a few more lucky breaks and all the time at their disposal before they venture to chance their arm again in the Test Match field. They have in recent times sadly disappointed their fans. Next time the team must be chosen with meticulous care. Not only on the field and in the pavilion must captain and manager control the side. They must be watchful on off-days, and there must be constant net practice and fielding practice. The team must be dedicated to cricket and play cricket all the time. So the choice of captain and manager is of urgent and vital importance, and perhaps age and experience are of more concern in those key posts than youth and fire. It is now being suggested that Mr Macmillan and Mr Butler take that view.

Down the drain

When the new Defence Pentagon is firmly established in a new Whitehall, I hope an inconspicuous room may be found in it, among the palatial committee rooms, for a trained costs-accountant. Occasionally, in recent years, a body of watchdogs brings to public notice some instance of overspending or underestimating in "legitimate" outlay for the Army, Navy or Air Force needs. It may be merely a flea-bite, chicken-feed, such as a suitable residence for a senior officer. No one, of course, is brought to book. It is just a polite warning that greater care should be exercised in future over the use of the taxpayers' money. It is not all "chicken-feed." Have you ever (in a nightmare) found yourself wondering how many astronomical millions of our money have gone down the drain in futile defence expenditure on Army, Navy and Air Force requirements since World War II? A general charge of reckless extravagance against the Services over the period would be grossly unfair. The swift advances of scientific perfection, combined with the intensity of competition among the terrified rival powers (leaving aside expenditure on nuclear weapons and space probing which is beyond our means of calculation), imply that scores of projects for military bases, for ships, planes and weapons of all sorts must be written off as out of date before expenditure on their blueprints and trial runs is paid and forgotten. Take one "little" example out of scores: our military base in Kenya. How much of our money went towards creating that unfinished monument to (inevitable) human myopia? How many instances not less fearful could be cited of the way the money has gone down the drain in all three Services for which no blame can be (or at any rate has been) attached to the planners? How many noughts must follow the index figure? The money could have been better used.

Speed through villages

Laws and bye-laws and other regulations may indicate governmental "concern" for crimes and misdemeanours, but they are not of much practical use unless capable of being enforced. All too many of them do not even possess milk teeth. Controlled speed on the road, for instance. If 75 per cent. of all our criminals in every field of crime escape scot-free, the percentage of road-abusers who are "safe" (at least from apprehension) probably shows an even higher-than-average immunity. Since there are not enough police and never will be, the work of enforcing speed limits can only be done by robots. We cannot dig shallow trenches or build ramps on our main roads, but we could easily reduce the casualty-lists in our villages by these simple devices. There are scores of villages (mine included) where the village street twists and turns, where cars park as they please, where tourists and villagers stand and gossip, and cattle of all kinds stray at will; and through it, all day long, drivers

hurtle at reckless speed (and 45 m.p.h. is reckless speed under such conditions). These villages have no " 30 m.p.h. limit " signs. Such restrictions are not always " appropriate " in the official traffic control scheme. Why don't we villagers stage another peasants' revolt and gather with our spades and pickaxes at the cross-roads on a dark and dirty night and make our Auburns safe for our children and elderly?

Attacking satire

The Lords agreed, and I agree with the Lords, that what goes by the name of Satire on the Air (and in certain lively periodicals) goes too far. Satire, to be effective, must have a basis in fact. It is not satire to brand a lifelong teetotaller, "known as such for miles around", as a drunkard. It is simply a libel and a lie. Pope, a famous satirist, realised this, and usually began by praising and acknowledging the known merits of his victims, before he trounced their known vices. Gay, in *The Beggars' Opera*, was a little less precise in his sweeping condemnation of the universal corruption of " courtiers." No man or woman and no body of men are totally corrupt. Pope and Gay showed another advantage over the satirists of 1963. They made themselves intelligible to their audiences or readers, whatever the age or intellectual ability of those audiences might be. Our modern satirists—perhaps as a safeguard against libel actions—are too often as unintelligible as they are biased. That true satire is good for a nation and good for its public characters, no one can deny. We can't have enough shrewd trouncing of our vices and hypocrisies. But a brilliant cartoonist or a clever satirist is a rare bird, and ham-handed imitators of the great masters drag down our national reputation undeservedly low. In time of war, to create an impression that " *all* our generals at the war are fools " encourages the other side, and in times of piping peace like these, it pleased only our neighbour nations to insist that all our governments are made up of boneheads or worse, and that an individual victim, private or public, has no redeeming virtue. The Labour Lords expressed this opinion quite as strongly as did the other parties. It may be their turn next and they may prove quite as vulnerable to modern satire. The truth is quite good (or bad) enough to give the satirist ample scope.

The Old Stager

Above : The Chiswick viaduct section of the London—South Wales motorway is now well under way. This 1½-mile section of the M4 should be complete by the end of next year. It will connect the A4 and Cromwell Road extension with London Airport spur, the Slough by-pass, the Maidenhead by-pass and the 60-mile section beyond, which is still being surveyed. The M4 will eventually be the principal route to Wales and the West, passing over the Severn Bridge and ending at the Newport by-pass

Far left: At Oxford Circus, one of London's busiest junctions, a steel " umbrella " is used by traffic while, underneath it, Oxford Circus Underground Station is enlarged for the new Victoria line. Planned to open in 1968, the new line will run between Victoria and Walthamstow. The " umbrella " was constructed at speed during Bank Holiday weekend when traffic was at a minimum. It is expected to be there for at least three years. The station under construction beneath it will be similar to that at Piccadilly Circus, with a number of escalators leading to the surface

FREUD

228 Or to give the film its full title in Britain, John Huston's production of *Freud—The Secret Passion*. It is due to open in London shortly, at the Columbia. Obviously, as a subject, the life of Freud has many pitfalls, but on the whole Huston has avoided them, and his film, shot in black and white, although serious in intent and never sensational in manner, generates its own excitement. The story opens in 1885: Freud, a 30-year-old neurologist at the Vienna General Hospital, runs into conflict with his superiors over the nature and treatment of hysteria. He takes a leave of absence to go to Paris to study under Dr Charcot, who has experimented in the use of hypnosis to treat hysterics. Returning to Vienna, he poses in a lecture the question: " Do only hysterics have unconscious thoughts, or do we all?" Only one physician, Dr Joseph Breuer, believes enough in Freud's theories to offer him help. Together they treat a young patient of Dr Breuer, Cecily Koertner. Breuer uses hypnosis to cure her of insomnia, but her impaired vision and semi-paralysis remain. Freud begins to devote all his time to research into hysteria; during this he searches within himself for the causes of some of his actions.

In the world of Victorian morality in Vienna, Freud inevitably meets with strong resistance as he develops and discards new theories of infantile eroticism: opposition culminates in a lecture where even his colleague Breuer rejects what Freud has said. The great value of the film is that it sets Freud. one of the handful of men who have changed man's ideas about himself, firmly in the pattern of his times, enabling us today to see how great a leap into the dark his ideas were. J.W.

Above: Freud (Montgomery Clift) visits his father's grave in a cemetery in Vienna

Above left: This famous painting by Brouillet, called " Charcot at the Saltpetrière ", shows Charcot in Paris demonstrating his theories in the use of hypnotism in the treatment of hysteria

Left: In Huston's film, the scene is closely paralleled. Dr Charcot is played by Fernand Ledoux, and Montgomery Clift as Sigmund Freud is to the left of the man in the apron (left foreground)

Much of the film is concerned with Freud's treatment of one of his first patients, a young girl called Cecily Koertner (played by Susannah York)

Above left: Cecily relives a repressed memory of when, at 14, she is awoken by police to be taken to her dead father

Above: Later, convinced she has wronged the memory of her father, Cecily dresses up as a street-walker. She is discovered by Freud and is dissuaded from throwing herself in despair into the Danube Canal in Vienna

The items in "The Voice of the Commonwealth" are contributed and do not necessarily reflect the views of the Editor of "The Sphere"

THE VOICE OF THE COMMONWEALTH

230 **AUSTRALIA**

A solar furnace for metal research

The hot Australian sun has become a partner in an applied physics project in Sydney. Scientists there are using the sun's heat to examine refractory metals and alloys. Refractory metals are those that resist the action of heat; they are particularly important in the construction of high-velocity rockets, jet engines, artificial satellites and atomic power plants—all of which call for metals that have to function at temperatures undreamed of 20 years ago.

The apparatus that has made this high temperature research possible was developed by a team of scientists at the University of New South Wales in Sydney. It consists of a solar furnace that is capable of producing heat up to temperatures of between 3,000 and 4,000 deg.C. Although metals can be raised to very high temperatures in conventional furnaces, they can easily become contaminated, especially if they melt. Sometimes it is the crucible rather than the test material that cannot withstand the heat. Refractory metals can be tested by what is called high-vacuum heating, but this is expensive and troublesome.

The solar furnace that has solved the problem of " clean " testing is mounted in a 50 ft., four-legged structure, itself a little like something from outer space. At its base there is a heliostat, a special mirror that reflects sunlight into a fixed direction. It reflects the sun's rays on to a paraboloid mirror supported at the top of the tower. This in turn concentrates the solar heat so gathered on to a small target area containing the metal alloy or other substance to be investigated. If the solar beam moves off dead centre, lenses record the fact and alert a system that controls the heliostat, so that it alters position to ensure that the total heat generated concentrates in the right place. The leader of the team that designed and built this remarkable appliance is Professor C. J. Miller, the Professor of Applied Physics at the University of New South Wales. Such is Australia's sunshine, he and his colleagues find that they can use the solar furnace from 8 a.m. to 4 p.m. throughout the year.

Above: The solar furnace built by scientists at the University of New South Wales in Sydney, Australia

Above right: The artificial Lake Eucumbene, formed by a dam 381 ft. high, shows the extent of the Snowy Mountains Hydro-Electric Scheme

Right: The Snowy Mountains scheme began in 1949. Here, a cable on the 90-mile transmission line is joined with a mobile hydraulic press

Far right: A 70 ft. high dredger at work in the coal-rich Latrobe Valley, in the State of Victoria, a vital power centre for industrial and domestic users

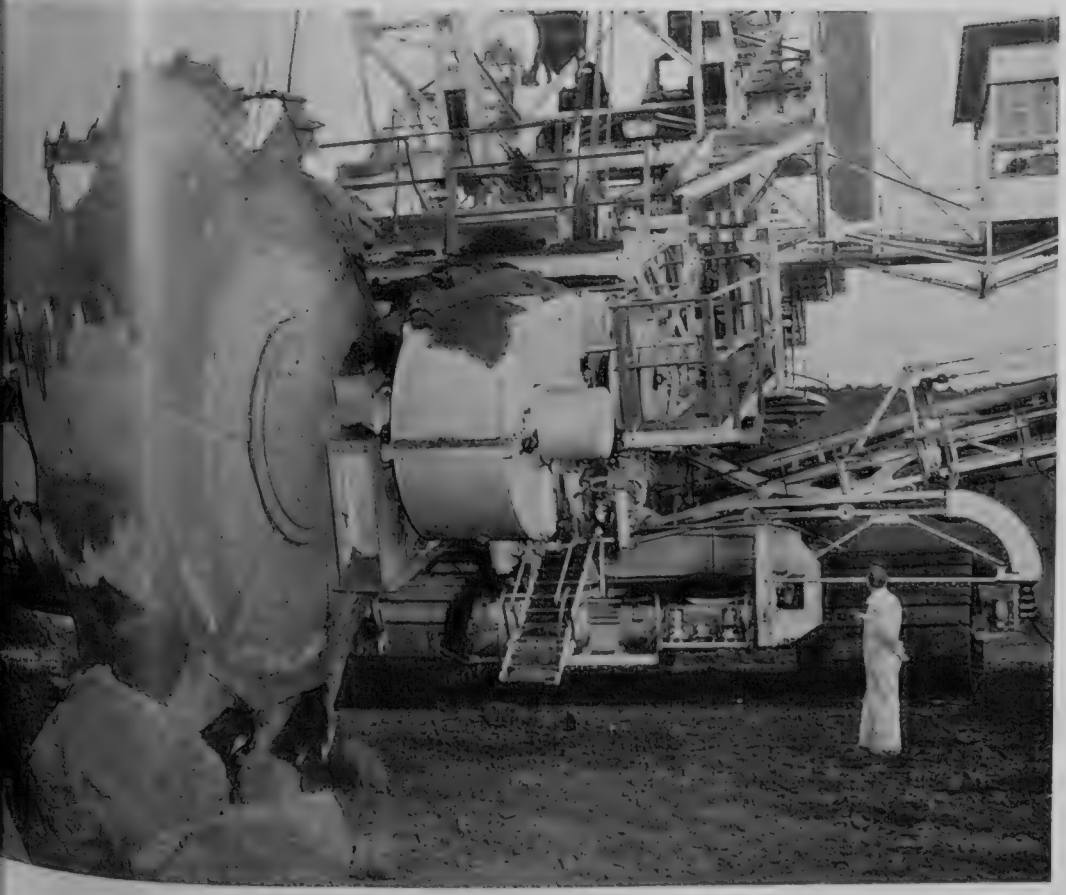
Electrical centenary in Sydney

One hundred years of electrical power generation have recently been celebrated in Australia. The click of a switch at Sydney Observatory turned on an electric searchlight powered by a cast-iron battery. That first electric light in 1863 was the forerunner of a vast system stretching right across the continent.

The great upsurge in the demand for electric power throughout Australia since the war has been the outcome primarily of increased manufacturing activity. The production of electricity rose from 9,500 million kilowatt hours in 1949-50 to 25,100 million kilowatt hours in 1960-61. And the demand is expected to go on rising at the rate of about double every ten years. Electrical generation has become a prime concern of both the Federal and the State Governments. The Federal Government became an independent supplier with the establishment of the Snowy Mountains Hydro-Electric scheme in 1949. The States began building large new power stations soon after the Second World War, generally near or on deposits of coal. Typical of these is the Latrobe Valley scheme, 100 miles east of Melbourne, where the State of Victoria Electricity Commission exploits the rich deposits of brown coal.

Coal is still by far the most important source of energy for the generation of electricity in Australia. Thermal plant represents 72 per cent. of the total installed capacity; hydro plant, 24 per cent.; and internal combustion plant, 4 per cent. The only State to base its supplies on hydro-electric sources is Tasmania, which has consequently attracted a number of electrolytical industries. Elsewhere, water is still too scarce.

Lady Louise Hillary and Sir Edmund, who is President of the New Zealand Council for Volunteer Service Abroad, a non-government body embarking on a new phase of activity in the Pacific Islands and South East Asia. Sir Edmund lives in Auckland, NZ



NEW ZEALAND

Filling " pockets of want "

Although New Zealand is itself a developing country, and has no great surplus of skilled manpower, it recognises a duty to help other countries in the Pacific and South East Asia. This duty is a first concern of the New Zealand Council for Volunteer Service Abroad. The Council was established in March, 1962, and in the first 15 months of its existence it has been busy, under the leadership of its President, Sir Edmund Hillary, enlisting public support for the recruitment and placing of workers overseas. The workers required belong mainly to the " middle-level manpower " group—young men who are nevertheless trained to do a job and because of their adaptability are able to mix with, and impart their skills to, others wherever " pockets of want " are discovered in the area. The New Zealand government is providing some financial and administrative support through the Department of External Affairs. And other organisations are helping too: Rotary International, The Royal Commonwealth Society, The Red Cross.

The first New Zealanders to begin work under the auspices of the Council left early in July, two for Thailand and two for Western Samoa. The Thailand Volunteers are Mr and Mrs Short, of Tokoroa in North Island, NZ. He is a pharmaceutical chemist, she a nurse. They will join a mobile medical unit working in the villages around Ubol in North East Thailand. The volunteers in Western Samoa are Mr R. D. Tristram, an accountant, and Mr R. W. Paterson, a farmer. Both have joined Salafai High School on the largest island of the Samoan group. Other volunteers are to follow these later in the year.

HEAD COUNTING IN N. RHODESIA

232 The first-ever complete census of the African population in Northern Rhodesia has recently been finished even though a census of the European residents has been taken regularly. A preliminary counting of the Africans has shown that the number is nearly three times the original estimate of 2½ million—a figure derived from the annual district reports.

Much of Northern Rhodesia—like the Lukanga Swamp area shown in the pictures here—is so inaccessible that the census operation took three months. Officials often had to travel by native dug-out canoe through crocodile-infested swamp (right) to reach fisher-folk living in grass huts on rafts of floating reed (below). Some of these inhabitants had had little or no contact with the outer world. They would be unlikely to have seen the posters put up by the government or the special film shown by one of the many mobile cinemas to explain the purposes of the census. Many would believe the census to be a precursor of tax obligations, and would show an understandable if misguided hostility. Others would speak a variant of one of the six main African languages, and no English. The completion of the census, therefore, was a triumph over very considerable difficulties.

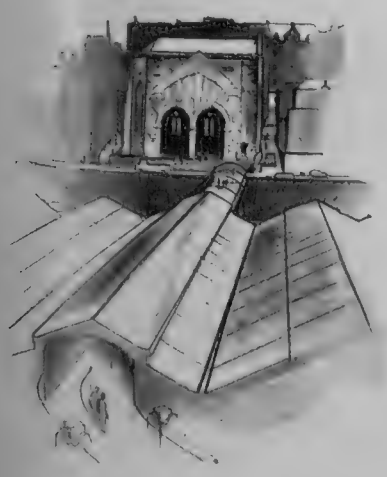
EDINBURGH—NO STONE UNTURNED

"In the street that divides Edinburgh from the Canongate is a magnificent church called the Queen's College." This, in a book published in Basle in 1550, described the Collegiate Church and Hospital of the Holy Trinity founded in the middle of the 15th century by Mary of Gueldres, the widowed Queen of James II of Scotland. After the Reformation, Trinity College Church (as it came to be styled) was one of the most important parish churches in the city—until 1849. In that year, after long-drawn-out discussion by the authorities concerned, it was decided that the church must go, to make way for the new railway whose lines emerging from the Waverley Station on its east side were planned to be laid in an area in which the church was set.

Complete demolition was averted. Stone by stone Trinity College Church was taken down and each stone numbered against the day when it would be reassembled on a new site. The entire fabric was stored on the slopes of the nearby Calton Hill. Over 20 years passed before a new site was decided on—by which time vandals and thieves had either mutilated, or acquired for less-noble building purposes, two thirds of the church's stonework, including the sculptured decoration of much of the splendid exterior.

The new site was only a matter of 100 yards to the south of the original position, but now, only the apse could be rebuilt and it was fronted by a new Victorian-type church, completed in 1877. In recent times, owing to a depleted congregation, this church was closed. Its demolition has been completed within the last few months but once again last minute intervention, this time by the City Corporation, has saved the historic apse from destruction. Plans are complete for its eventual reopening after necessary modifications, to serve the citizens as an imposing library reading room.

Inside the re-erected apse of Trinity College Church. Through the arch (left) can be seen the balcony of the Victorian church which was built onto the apse



Looking from the Regent's Arch in Waterloo Place across the roofed-in railway lines to the remaining portion of Trinity College Church. In the last few months the Victorian additions have been removed

illustrated by John Mackay

EDINBURGH—NO STONE UNTURNED

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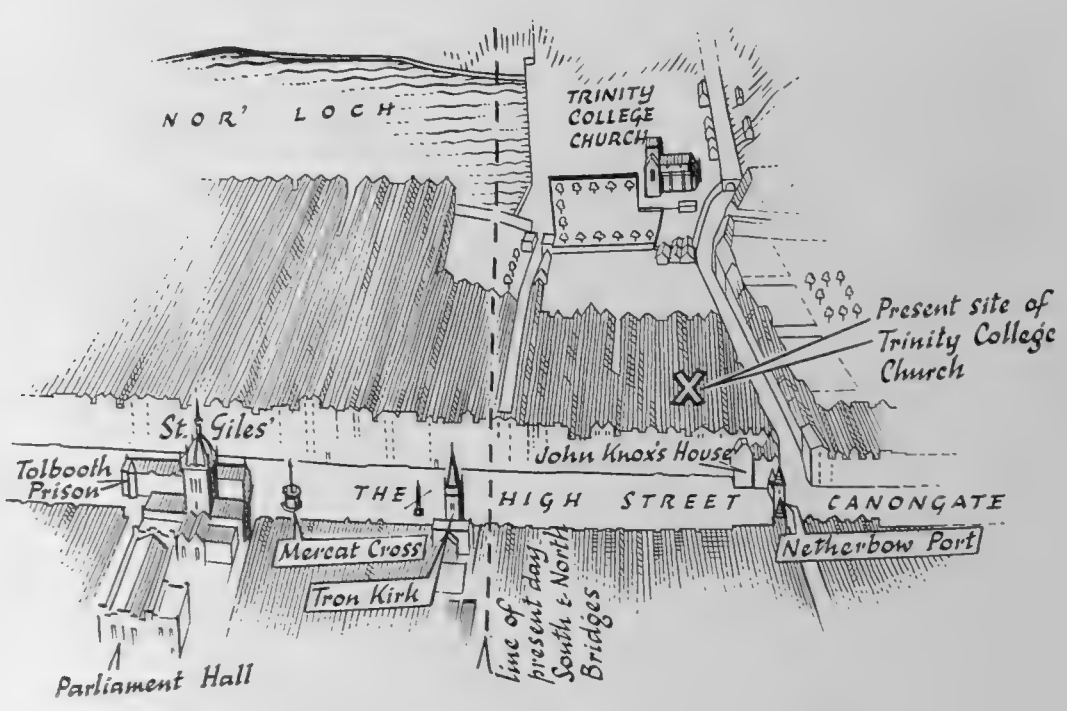


The original position of Trinity College Church, as shown on a 17th-century map, when the Nor' Loch spanned the area to the north of the Castle. The church's present position is marked by a cross

This handsome 18th-century mansion in Chessel's Court has been extensively restored. It can be seen by entering Gullan's Close in the Canongate, or via Knox's House. The mansion is part of the Corporation's rehousing schemes. Turned into modern flats it will have garages at the back. The tenancies of such old houses

of the Royal Mile have lowed a general pattern occupied by merchant ces, then suffering a ge decline until they be condemned and had t extensively renovated. is a detail of the fine pla work above a mantelpie Chessel's Court. The ior decorations are b preserved by the Corpor

The new entrance to Lady Stair's House, from the Mound side, in the Lawnmarket. Now a museum, it has exhibits associated with Burns and Scott. When the Stevenson birthplace museum closes this year, the exhibits will be transferred to Lady Stair's House. The new entrance was made possible by removing the building on the north face of the house

Another building being turned into modern flats under a Corporation housing scheme is White Horse Close at the foot of the Canongate near Holyrood. Once a coaching inn for the run between Edinburgh and London, this building is screened by more modern structures

Old boys of the first Merchiston Castle Public School would find it difficult to recognise their Alma Mater today. But the old castle, from which the school took its name, has been incorporated in the huge new Napier Technical College, due to be opened next year. The College is named after John Napier of Merchiston, the inventor of logarithms, who was born in the Castle in 1550. It is situated about three quarters of a mile to the west of the King's Theatre

BRIAN VESEY-FITZGERALD

FESTIVAL EDINBURGH

This year's International Festival at Edinburgh lasts from this Sunday, August 18, until September 7. Ivor Brown, when writing of a past Festival in his delightful *Summer in Scotland*, had this to say: "The assemblage of opera, orchestras, ballet and play-acting of all kinds, of Highland Games and Military Tattoo, as well as of manifold displays and excursions to famous country houses and gardens, has become so multifarious that no visitor can hope to keep up with all of it. . . . The wise are those who practise a discreet selection, choose what is their own best, and then limit their activities; it is no sort of junketing that only produces 'Festival Foot,' with its corns, puffy ankles, and fallen arches, sightseer's neck, and the malaise of cultural surfeit."

I know how true that is. I learnt my lesson at the first of these Festivals, in 1947. The weather was good that year—for Edinburgh, not the warmest of cities, positively hot—and I got carried away (at least, until my feet refused to carry me farther) with enthusiasm. Since then the Festival has grown enormously. It is more than ever essential to be selective and even to escape.

There are few cities in the British Isles in which it is so pleasant to wander. Edinburgh prospered during the Victorian Age, and on the whole she came out of it without industrial scars. Between 1850 and 1900 the built-up area of the city doubled and there are, of course, some black spots, but for the most part the development was not the sort of development which has disfigured so much of the industrial north and midlands of England and south Wales. Edinburgh, it should be remembered, is now the centre of a great industrial region as well as a capital. The acres of houses stretching north to Leith and Newhaven, west to Murrayfield and south to Blackford Hill, may not be beautiful, but they are well built, solid and presentable, and somehow they have managed to avoid monotony. The building between the wars, along the approaches to the city, was much, much worse. Inner Edinburgh, however, remains a remarkably pleasant city with an excellent zoo and an excellent botanic garden and some good open spaces—even the dusty grass of Princes Street Gardens is rewarding—and always there are Salisbury Crags and Arthur's Seat to lift the eye. Yes, a good city for "time off": but not during the Festival. Then one needs, at least I need, if only for a few hours, time off from the Festival. And to achieve that you have to get right away from Edinburgh.

Fortunately, there is the East Lothian coast right on the doorstep: and there is, close to a great city, no stretch of coastline better suited to relaxation than this. Dunbar is but 28 miles away—and A1 is a fast road—and Dunbar is the ideal place from which to start an exploration of this coastline back towards Edinburgh. Dunbar, situated on the edge of rich farming country (the soil is red; this is the home of a famous potato, the Dunbar Red), is an old fishing port (its history goes back to the 7th century) with a charming 17th-century hexagonal-towered Town House and many intriguing glimpses of the sea through the openings and side-walks of the High Street. Even on the hottest summer day there is a freshness in the air and the tang of salt spray. But the real point about starting at Dunbar is that it has a fine golf course and is, so to speak, the gateway to golfing Scotland.

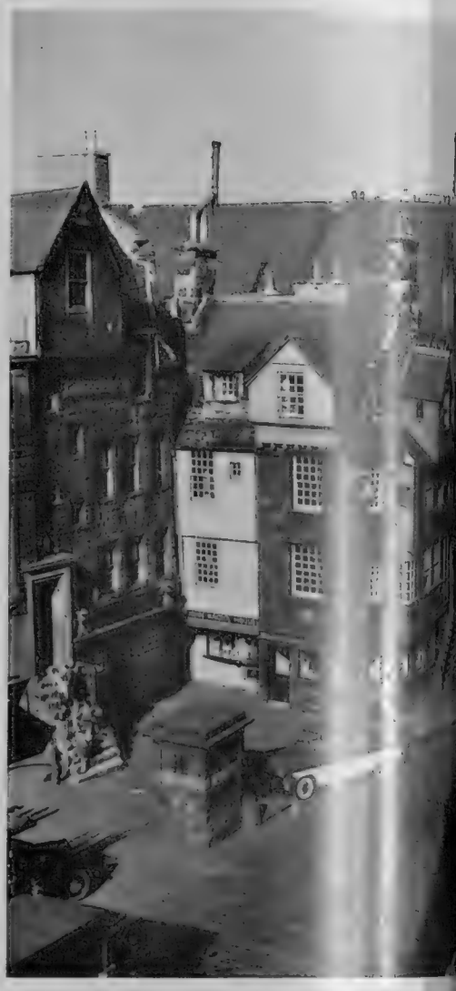
North of Dunbar the scenery changes: the red soil gives place to sand. One of the most noticeable features of this stretch of the East Lothian coast is that its little towns and villages stand well back from the sea: even the town of North Berwick, set on a broad promontory, does so. The reason is the sand; fear of the sand. The sands here are not so voracious as the famous Culbin Sands in Morayshire, which buried a barony, but they contain an ever-present menace. Gullane (pronounced "Gillen") lost its church to them. So the little towns stand well back from the sea. Between them and the dunes and the beaches is a fine green carpet. This carpet is ideal for golf, provides the perfect playground for parents, while the beaches provide a safe playground for their children and the dunes a haven for the sea birds. I find it a quite fascinating, and wonderfully bracing country: and I am no golfer.

Golf by the sea

But here you cannot ignore golf. From North Berwick, pretty well all the way back to Edinburgh, the sea's fringe is given up to golf: golf course after golf course. North Berwick (population 3,700-odd), which ranks next only to St Andrews and Carnoustie in golfing fame, has two: Gullane (population 1,400-odd) has three municipal courses and the Championship course at Muirfield, the headquarters of the Honourable Company of Edinburgh Golfers: Aberlady (population about 1,000), no more than a couple of miles away, two more. A matter of eight first-class courses within a span of seven miles or so.

Perhaps this is not astonishing. After all, golf is said to be the national game of Scotland and it is popularly supposed (by the Sassenach) that the first thing a Scottish child does on leaving the cradle is practise its swing. In fact, the national game of Scotland is soccer, as anyone who has attended an International at Hampden Park must realise. The Scottish child takes naturally to football, not to golf.

While it is true that golf is a more truly democratic game in Scotland than in England, that there are more artisan golfers and that they have easier access to their local links, golf in Scotland, as in England, is largely the relaxation of the upper and middle classes. So, I find this close gathering of courses in so thinly populated a countryside astonishing. It costs a great deal annually to maintain a good golf course. But the Scots are a canny lot. A course that did not pay would not be maintained. There must be an answer. I can only think that Edinburgh must have the largest leisured middle-class population in Britain. Of course, you do not notice this at Festival time: then you notice the tourists and the foreign accents. But I have to admit that I have not noticed it at other times—they must all be out on the links of East Lothian.



Above: Among the distinguished musicians at this year's Festival will be the Amadeus Quartet, at the Leith Town Hall for the first two weeks

Top: One of Edinburgh's historic buildings sure to be a centre of interest for visitors during the Festival is John Knox's House in the High Street

Right: Fernando Corena as he will appear in Donizetti's opera *Don Pasquale* in the production by the Teatro San Carlo Opera of Naples. Besides the San Carlo, opera lovers in Edinburgh will also see the English Opera Group in *The Rape of Lucretia* and in *The Beggar's Opera*

Above: The Lord Provost of Edinburgh, Duncan M. Weatherstone. It will be his first Festival as Lord Provost

Top: A general view of the Scottish capital—looking west, with the Castle in the top left corner. Princes Street is on the right

Left: Yuriko in Martha Graham's ballet *Embattled Garden*. This is the first visit to Britain since 1954 by the remarkable dancer Martha Graham and her company

Far left: This year's Festival will have a distinct Indian flavour. Among the Indian artists to appear will be Balasarasvati, the greatest exponent of Bharata Natyam dancing, which flourished for many centuries in South Indian temples. She is to dance at the Exhibition of Indian art in the Royal Scottish Museum

YACHTING

Above: Ian Proctor, at the helm of his *Fabulous*. John Oakeley is crewing. **Top:** National Ospreys at Hayling Island during their 1963 Championship week

I remember watching three boats of very roughly similar dimensions during the one and only " Round the Island " dinghy race in 1953. Each one was sailed by her designer, Uffa Fox's *Jollyboat*, John Westell's *Coronet* and Ian Proctor's *Osprey*. The three being larger than most of the other dinghies in the race, and being sailed by outstanding experts, went ahead of the rest of the miscellaneous fleet and had a little private battle of their own towards the end. Finally, *Jollyboat* was outpaced, and after a close fight between the other two, *Osprey* won the race.

The *Jollyboat*, made by Fairey Marine, has gained some following subsequently, but has never become a large, popular class. The *Coronet*, later slightly modified, was outstandingly successful in the French Caneton Association's trials and became eventually the International 505 dinghy. It is a most efficient two-man racing machine, and the only curb to its progress has been the selection of the Flying Dutchman as the two-man centreboard class for Olympic racing. It is raced in many countries, and is especially popular in France.

The progress of the *Osprey* was not spectacular at first, in spite of her winning the 1953 event. The first, winning model was of glued clinker construction, fairly expensive to build and not simple enough for amateurs to build at home. This retarded the growth of the class, until a slightly modified Mark II was produced in collaboration with the Bell Woodworking Company. Clinker hull became treble chine, and the new version was suitable for quantity production and could be assembled easily by amateurs from prefabricated parts. Since 1956, when the modified boat was introduced, there was no holding back the growth of the class. In that year about 30 boats were built and a class association was formed. Numbers grew with increasing momentum, and now, ten years after its first appearance, there are over 400 sail numbers. The fine qualities of the design, its reasonable cost (about ⅔ that of the 505), and relatively easy construction have made the Osprey an important dinghy class at last. More attention was focused on the class by the successful performances observed in " one-of-a-kind " races at Chasewater, Isle of Sheppey and Scotland. The final accolade and recognition was received when the Royal Yachting Association agreed to grant the class national status, effective from July 1, 1963.

The success story was recently brought into the limelight by the excellent championship meeting of the class, the sixth in its history, organised by the Hayling Island Sailing Club. It was the most successful championship meeting in every respect. Even the weather contributed to everyone's satisfaction. There were over 40 entries from all parts of the country. National Champion, winner of the Telegraph Trophy, was A. Needham in *Bandicoot* of the Hamble River S.C., and Ian Proctor, the designer, had the satisfaction of being the runner-up in his *Fabulous*.

Today Ospreys are sailed in many clubs in the United Kingdom, also in Eire. They are equally at home at sea, in estuaries, and inland waters. A Derbyshire club has a very keen fleet sailing on the water of a comparatively small reservoir. The principal centres of the class are Loch Lomond, Northumberland, Yorkshire, Derbyshire, Suffolk, Essex, Cornwall, South Wales, Lancashire and on the Clyde. Overseas, there are now strong fleets of Ospreys in Nigeria, Tanganyika, Singapore, Canada and the United States.

FOLKESTONE

The Folkestone Golf Club, which is believed to be one of the oldest in Kent, is celebrating its 75th anniversary this year. It was formed in 1888 as a nine-hole course and opened as an enlarged 18-hole course by Lord Balfour in 1908. During the last war it was requisitioned as a site for anti-aircraft batteries. Bunkers appeared everywhere through the action of enemy bombing. After the war, large-scale restorations were undertaken: Mr J. S. F. Morrison redesigned the course, incorporating modern ideas in the layout of the holes.

Situated under the Downs but only five minutes' walk from the Central Station through Radnor Park, it is one of the most attractive features of Folkestone, both for the residents and the holidaymakers. The course is of medium length (6,063 yards S.S.S. 71) with many interesting and testing holes: the 1st, 10th and 15th tees are all in front of the clubhouse, which enables players to get away without undue delay. The clubhouse provides all the usual amenities, including a bar, billiards table and restaurant, and is proving most popular among business associations and federations holding conferences in the town. The Club Professional is Charles Whiting, a member of the well-known Kentish family of Professionals and club makers, who keeps an excellent stock of clubs and golfing equipment.

Above: The Club Professional, Charles Whiting, with a Swedish visitor to the Club, Mrs Lennart Kihlberg of Gothenburg

Top left: A view of the course from the top of the clubhouse, looking towards the Downs

Centre far left: Mr Ian Black, the Vice-Captain

Centre left: The Captain, Mr G. F. L. James, plays from a bunker at the 10th hole. Watching him is Mr Ian Black

Left: The Club Committee pose for a photograph in front of the clubhouse; Front row, from left to right: Mrs Reine Castle (Ladies' Vice-Captain), Mr G. F. L. James (Captain), Mr F. R. Upton (President), Mrs B. Broatch (Ladies' Captain), Mr W. J. Hatchet (Past Captain). Back row, from left: Mr L. F. Daughters (Chairman of the House Committee), Mr F. Yeo (Chairman of the Green Committee), Mr E. S. Nash (Council Member), Mr V. S. Woodiwiss (Secretary), Mr R. W. Blundell, Lt.-Col. G. E. Charter, Mrs M. White and Mr White (all Folkestone members)

SWISS LAKES & VINEYARDS

BY SYLVIE NICKELS

240 By a piece of nature's good fortune, the three main wine-growing areas of Switzerland are situated amid surroundings which are scenically about as different as one could wish in this versatile small country. Combined, the three could provide the theme for a more than pleasant autumn holiday. The first of these areas, best known for its sparkling white wines which go admirably with the cheese specialities of the region, is around Neuchâtel, that pleasing lakeside university and watchmaking centre at the foot of the Jura mountains, described in a recent article. It suffices to add that this year's vintage procession will take place on October 6.

By rail or road from Neuchâtel, it is only about an hour to Lausanne, now in the throes of its vast preparations for next year's Swiss National Exhibition and for the 13 to 16 million visitors who are expected to attend. But more of this at a later date. For the moment it can be regarded as an excellent shopping centre set at muscle-testing angles on seven hills, with a fine old cathedral and animated harbour. It is also the starting point for one of the loveliest stretches of lake riviera I know, though it ends all too quickly just beyond Montreux some 15 miles away.

The lake, of course, is that of Geneva, the backdrop the mountains of Savoy; it is the foreground, stepped steeply along rail and roadside, which provides the vineyard district known as Lavaux and which, even more so in the russet tones of autumn, adds a special quality to this already splendid landscape. The higher Corniche road from Lausanne to Vevey is even more beautiful than the much better-known main road.

Though there are no special events in honour of the vine in this region (except the monumental Winegrowers' Festival which takes place every 25 years at Vevey; the last was in 1955), the quaint little villages of the Lavaux take on a purposeful air at wine harvest time, and there are wonderful spots to sample Dézaley, St. Saphorin, Rivaz, Epesses, Riex, Villette, Lutry—all wines which take their names from the small villages which produce them. St. Saphorin, near Vevey, is a place of particular charm with an excellent and ancient restaurant, L'Auberge de l'Onde.

Further east, in the canton of the Valais, crowded in by towering bastions of mountain which guard the Rhône Valley, is the vineyard home of the rather heady Fendant white wine, and Dôle, a red wine obtained from Burgundian stock, the Black Pinot, and considered by some the best of the Swiss wines. On your way through the Rhône Valley, I strongly recommend a stop at the lovely little town of Sion, where the Sound and Light Performances against the setting of an old castle continue until the end of September. You should also allow yourself to be side-tracked by some of the innumerable side valleys which lead high into the most grandiose surroundings, some of them not even yet on the international tourist map.

The far end of the Rhône Valley is marked by Brigue and an apparently impenetrable barrier of mountains through which begin that veritable roundabout of mountain passes linking the high spots of the Alps. Your road lies through the Simplon to the southernmost canton and wine-growing area of Switzerland, Ticino. The most usual approach to the Ticino resorts of Locarno and Lugano is via Zürich and the St. Gotthard pass, but there is a good deal to be said, too, for the Simplon route which is only a little less magnificent and from which you continue across a brief section of northern Italy before re-entering Switzerland most informally through the Centovalli. The rather bad road through this valley is at present being improved. For non-motorists, a railway winds its way between the precipitous forests, finally to emerge into the smiling, Italianate landscapes of this other Switzerland.

The change, after the sternness of the Rhône Valley, is quite startling, for the profusion of flowers is glorious, while the increasing appearance of palms brings the mood of the Mediterranean to the very threshold of the Alps. Locarno and Lugano, of course, are the principal lake-side towns of Ticino and, though Lugano has the more dramatic position, lesser-known Locarno is very pleasant indeed on its northern strip of Lake Maggiore, with the Italian border a mere handful of miles away. Ascona, with three miles, is charming and much quiet From here you can visit the botanical garde on the nearby Islands of Brissago, while furth south on Maggiore, there are the famous Italia Borromean Islands.

For sheer splendour of position, howeve that of Lugano is second to none among th lake resorts of Switzerland. Caught in th curve of a bay that provides one of the intricat twists of Lugano Lake, it is flanked by tw lovely mountains, Monte Bré and San Salva tore. Both are reached by funicular and offe fine views; but across the lake rises anothe viewpoint whose splendour is, without exag geration, on a par with the greatest Alpin peaks. It is Monte Generoso (6,000 ft) an its views are generous indeed, sweeping acros the northern plains of Italy, embracing laye upon layer of mountain range laced with lake to the distant white turrets of the Alps. Spec tacular, too, is the trip by chair lift to Mont Lema, high above the lovely Malcanton district of quaint villages and magnificent walks.

Lugano is a gay place and, should you be moved by the gambling spirit, there is Cam

Above: The Vineyards of Lavaux, above the Lake of Geneva

Far Left: A view of the plain of Lombardy from the Swiss-Italian frontier which runs along the ridge

Right: The pilgrim's Church at Morcote on the banks of Lake Lugano, with a visiting pleasure boat

pione. 20 minutes across the lake, a strange little enclave of Italy which does a roaring trade with holiday-makers from Swiss soil. By day, there are the walks, the excursions, the boat trips, with countless little villages to provide delightful destinations. Gandria is one, on the lake shore only a few miles away; it would be perfect if they banned the souvenir shops. Morcote is another, dominated by its thirteenth-century pilgrimage church which stands at the head of 404 steps; in the cemetery many an artist has been laid to rest. Also at Morcote is the Rieder Museum, arranged in the style of a Rumanian country-house to shelter a remarkable collection of Russian, Greek and Rumanian icons. Half-way between Lugano and Gandria, a private and priceless art collection can be seen at the Villa Favorita, Castagnola, including examples from most of the European Schools from the Middle Ages to the nineteenth century.

From both Lugano and Locarno, numerous excursions cross the border into Italy to the lake-side resorts of Maggiore and Como, and Milan only 2½ hours away by rail. Ticino wines have made little impact beyond the canton borders, but they provide an excuse for Lugano's lively wine festival which, as in Neuchâtel, takes place on October 6 this year. Vintage celebrations will also be held this autumn on Monti, above Locarno, in October.

For further information: The Swiss National Tourist Office, 458, Strand, London, WC2.
Means of access: London-Zürich, by BEA, Swissair, etc., from £23 7s weekday night excursion to £49 12s 1st-class return. Thence Zürich-Lugano, £4 8s 1st-class return; £3 5s 2nd-class return. London-Lugano, by surface travel, from £26 3s 1st-class return; from £18 9s 2nd-class return. Enquire about the Swiss Holiday Ticket, which reduces the cost of long-distance rail travel in Switzerland and entitles the holder to considerably reduced fares on some excursions.

TELLERS OF HAPPINESS

242 **Feathers from the Green Crow** by Sean O'Casey: Macmillan. 30s, is a volume of the Irish author's earlier writings and has been edited with great sensibility (and, I suspect, not a little hard work) by Mr Robert Hogan who came over to Dublin from his Indiana university to do his job of literary detection and to assemble some excellent reading, chosen from the period of 1905 to 1925. There are short stories, two unpublished plays, articles on social and political themes and the first piece for which O'Casey was paid—*The Story of the Irish Citizen Army*. To watch the beginnings and the technical progress of a considerable figure in the worlds of the stage and letters is always an absorbing business and Mr Hogan should be thanked for his industry, good taste and the modesty which prompts him to thank his " collaborators " so warmly.

Dining at the Pavillon by Joseph Wechsberg: Weidenfeld and Nicolson. 30s, provides as complete a contrast to the last book as could well be imagined, since it is the work of a New York, European-born gourmet and writer, some of whose best efforts have been bent towards telling people how good a well-cooked meal may be and to communicating a little of his own enthusiasm for the masters of an exacting craft. Here he is writing about one of the best of New York restaurants, one that ranks evenly with the best in France, and he has interpolated descriptions of visits, blow-out by blow-out, to the very finest eating places in the homeland of such delights.

Don't Print My Name Upside Down by Michael Green: Hutchinson. 15s, is a first novel by an author who has already produced two amusing books about the arts of coarse rugby and coarse sailing. As might be expected, the present book is funny, inventive and might, with some truth, have been given the title of coarse journalism—if there were such a thing. Mr Green has described his hero's exploits on a provincial newspaper, an old one with a history and even continuity of its own, which started when a messenger from London had galloped in with news of Waterloo, his despatches stuffed into his boots along with a brace of pistols. " It was unfortunate that after all the trouble he had taken the *Monitor* should have spelled Wellington's name wrongly, starting a proud tradition of inaccuracy which the present editorship was energetically keeping alive." A thoroughly amusing book.

The Shortest, Gladdest Years by Scott Sullivan: Cassell. 21s, tells the story—or rather, the several stories—of four young men at an American university, each of them approaching the four-year academic period from different standpoints and each of them reacting positively and articulately for or against the academic life. One is a Jewish boy from the Bronx; one, shy but explosive, comes from an ordinary middle-class family; one, in comfortable circumstances, comes up with the express purpose of having a good time, and one, from a simple home, has the single-minded purpose of making good, no matter what. Mr Sullivan, whose first novel this is, writes with considerable zest and with the personal background of Yale and Cambridge. This is, occasionally, a fairly alarming novel in its implications. It is also a readable and possibly an educational one, in its own way.

Three Phases of High Summer by Peter de Polnay: W. H. Allen. 16s, is frankly, but not especially simply, a love story, in the course of of which a man and a woman, who have nothing in common but youth and passion, try to work out a permanent plan for living. Many complications and some rapid shifts of ground, from a snowy Suffolk to a summery Paris and other more exotic travels, make this a diverting novel.

Careful, He Might Hear You by Sumner Locke Elliott: Gollancz. 21s, with its admirably drawn Australian background, its acute, sensitive character drawing and its mood of unsentimental compassion, proves to be one of the most striking books of the week: as memorable as it is original. The plot is concerned with a six-year-old boy and a struggle between sisters for his guardianship. It is tender, funny, ironic and near-savage and I shall think of it for a long time as the work of an author with a faultless ear for dialogue.

Children Is All by James Purdy: Secker and Warburg. 18s, is a collection of ten short stories and two plays, of which one provides not only the book's title but an original and strange piece of work: disturbing as it is haunting. Mr Purdy is an American writer whose work always escapes banality by a wide margin and in the present little volume he again proves himself a very talented odd man out in contemporary fiction.

There is a Happy Land by Keith Waterhouse: Michael Joseph. 18s, was first published six years ago but, for those readers who missed its appearance then, it will come as a fresh delight in its marvellously accurate picture of the

TO THE WARS AGAIN

In the last couple of years or so we have seen a spate of war books—and this week there are more. The historians and the military journalists have been having a field day particularly with the 1914-18 War, and the dismal truth of many episodes has emerged from the brave fog of patriotic propaganda. Of late, much the same kind of thing has been going on over the Second World War. Public interest in these and other episodes—stretching all the way back to the farcical-tragical blunders of the Crimea—is apparently unslaked. Is this because warfare as we know it—the holocausts, the spirit of national unity, the heroism and romantic gesture—appear to be matters of the past? Nuclear warfare when we dare consider it would be very different: little chance there for individual heroism. Twenty-one years ago next week there occurred one of the most controversial of all British actions in World War Two, the " reconnaissance in force " on Dieppe. It has been compared to the tragic futility of the Charge of the Light Brigade: alternatively it has been called a strategic necessity in planning for D-Day.

Dieppe: The Shame and the Glory by Terence Robertson: Hutchinson. 42s. This is a big volume covering in detail the planning for and the events of August 19, 1942. On that day six battalions of Canadian infantry of the Second Canadian Division, plus tanks, Commandos, and miscellaneous units, landed at three points in the Dieppe area. In all, some 5,000 men went ashore in the early morning. Seven hours later, attempts to extricate the survivors ended. Total casualties among all services including the Navy, which carried out the transport and support of the infantry, and the RAF, which fought in the air above Dieppe, were 4,330. A destroyer and 33 landing craft were sunk: 106 RAF aircraft were destroyed against 48 of the Luftwaffe: and there were 600 German Army casualties. In brief it was a disaster. Terence Robertson gives an exhaustive account of the strands of conflict between political and military considerations which led to Dieppe, a raid on strong German defences, gambling on tactical surprise without adequate fire support. He makes a strong plea for General Ham Roberts, commander of 2nd Canadian Division, who became subsequently the scapegoat for the failure of the raid.

Dieppe: August 19 by Eric Maguire: Jonathan Cape. 21s. A much shorter book, this gives a clear and brief outline of the events of that day, including details of the German reactions not covered by Terence Robertson. Mr Maguire also examines the thesis that Dieppe was necessary as a preparation for D-Day with some care. This thesis, using hindsight, appears to me to say that the methods of Dieppe, attacking strong German defences in a combined operations, without overwhelming firepower, had to be tried to see if they would work. So that when D-Day came, the same mistakes would not be repeated. It doesn't seem to me, militarily at any rate, to hold a great deal of force.

Monte Cassino by Charles Connell: Elek. 25s. The battle to break through the German fortifications in Italy south of Rome and the controversial Allied decision to destroy the famous monastery at Cassino is the best-known episode to come out of the long-drawn-out struggle by the Allied Forces to advance up the Italian peninsula. (It is worth pointing out that the Allied Forces gained valuable experience from the North Africa landing, the landings in Sicily and Italy, which may well have outweighed that gained at Dieppe.) Charles Connell concentrates, in his story of the bitter fighting to break through the Gustav line, on the final successful assault on Monastery Hill carried out by the 2nd Polish Corps from May 11 to May 18, 1944. In doing so, he adds to our knowledge both of this battle and of the bravery and fighting skill of the Polish soldiers. They were getting their major crack at the Germans at a time when the Teheran Conference promised further division of their unhappy homeland. Charles Connell provides a straightforward account which, although detailed, disconcertingly gives the impression of being sketchy.

Wars do not end tidily: the sideshows go on in remote parts of the world. The last two books on the list are both concerned with the aftermath of the 1914-18 War and in particular with the confused period of events after the Russian Revolution.

life of an 11-year-old boy with all its fears and delights, and with its foretaste, too, of the brilliance of the same author's *Billy Liar*.

Angelique in Love by Sergeanne Golon: Heinemann. 25s, is the latest, lengthy episode in the apparently perennial history of that 17th century beauty with the bright green eyes, the affectionate nature and the authority which, at one time, made her the queen of the Paris underworld. In this new adventure, Angelique, once a favourite of Louis XIV, is helping to rescue Huguenots from La Rochelle and sailing with them on the most hazardous of voyages, across the Atlantic to the New World, to find a lasting love at the end of her journey.

Catch a Falling Spy by Nathaniel Benchley: Hutchinson. 18s, is a very amusing book, indeed, as befits the work of a writer who is a wit in his own right and the son of Robert Benchley, one of humour's best gifts to the 20th century. Young Mr Benchley has given us the tale of espionage as it barely conceivably might be in present-day New York, and a very gay, occasionally chilling business he has made of it all. I began to smile about page three and thereafter never had a gloomy moment.

Death of a Fat God by H. R. F. Keating: Crime Club. 12s. 6d, is original, involved, amusing and, to some readers, will inevitably appear as slightly pretentious. Mr Keating has already written such exercises in ingenuity and intellect as *Zen There Was Murder*, and his work is not becoming less abstruse with the years.

Vernon Fane

The Transcaspian Episode by C. H. Ellis: Hutchinson. 30s. To this day, Transcaspia to most people is the hiatus between Iran and the Caspian and Kashmir and China. Colonel Ellis gives an authoritative account, unlikely to be bettered, of the muddled events in 1918, when British-Indian troops intervened to occupy temporarily the great oil city of Baku to prevent a Turkish-German advance through the Caucasus to Afghanistan and India, and of how British troops came to aid one side in the intra-Russian struggles in Central Asia. These events have been charged by Communist propagandists as attempts by British colonialists to seize Russian Central Asia. The importance of Colonel Ellis's account is that it shows that this was not so; the interventions were a hastily improvised holding operation. The area of these operations was very much "Kim" country, full of the reverberations of Kipling's Great Game and of romantic places like Samarkand. In the author's beautifully written, crisp account, this story of a sideshow has its own fascination.

Baltic Episode by Captain Augustus Agar, VC: Hodder and Stoughton. 21s. Subtitled *A Classic of Secret Service in Russian Waters*, this is the author's account of his adventures in 1919, when as a lieutenant in the Navy, he was sent to rescue a British agent from Petrograd, at the height of the White Russian attempts to break with the Bolshevik Government. It forms an interesting sidelight on history.

Jolyon Wimhurst

HQ FOR NT

The Director of the National Theatre, Sir Laurence Olivier, leans out of a window of the temporary headquarters of the Theatre near Waterloo station, on London's South Bank. Last week he gave details of the first season of the National Theatre. It will open on October 22 at the Old Vic, with Peter O'Toole in *Hamlet*, supported by Michael Redgrave as Claudius, Diana Wynyard as Gertrude, Max Adrian as Polonius and Rosemary Harris as Ophelia. There will be a company of between 50 and 60 for this first season, which will include also Max Frisch's *Andorra*, with Tom Courtenay in a leading role; *Hobson's Choice* by Harold Brighouse; *The Master Builder; Othello*, starring Olivier himself; a double bill consisting of Sophocles' *Philoctetes* and *Play* by Samuel Beckett and *The Recruiting Officer* by Farquhar. The intention is to build up a large repertoire of classical and modern plays on the basis of an accumulative repertoire, using the Old Vic stage until the new Theatre is built on the South Bank. (Choice of architect for this is still being discussed.) It is intended that the company will make a provincial tour next April.

Photographed by Tom Hustler

LEADERS OF BRITISH INDUSTRY: **GERALD MOBBS**

Gerald A. Mobbs is the Managing Director of Slough Estates Ltd. and Slough Estates (London) Ltd., a Director of Slough Estates (Canada) Ltd., Slough Estates Australia Pty. Ltd., and N.V. Slough Estates Belgium S.A., property companies with a long record of industrial estate development. Born in 1911, the youngest son of the late Sir Noel Mobbs, he was educated at Marlborough and Christ Church, Oxford. During the war, he served with the Airborne Forces, was wounded and taken prisoner at Arnhem. Mr Mobbs is Chairman of the Slough Social Fund, a fund which operates the largest Community Centre in the country. He is Chairman, too, of the Slough Industrial Health Service, which began in 1947 with the help of the Nuffield Foundation and the Nuffield Trust. Mr Mobbs is also a Director of the Nuffield Health and Social Services Fund, and a Member of the Council of the Occupational Hygiene Service. He is an officer of the Order of St John and a Member of the Council of the Order in the County of Buckingham. Mr Mobbs was last year High Sheriff of Buckinghamshire, an office which his father held in 1945. In 1933, he married Elizabeth, younger daughter of the late Mr Frank Lanchester, who was one of the three brothers that founded the original Lanchester range of motor cars. They have one son, Nigel, who married in 1961 Jane, the second daughter of the Hon. Lionel and Lady Helen Berry. Mr Mobbs and his wife have their home at Bramleys, Little Kingshill, Buckinghamshire.

POWER FOR WINTER

by The Sphere Industrial Correspondent

Last winter reminded the British public just what peak load on the electricity system means, and how difficult, in extreme weather, it can be to supply. Since then, their electricity bills will have reminded them that it is also costly to supply; and in the future, these bills will be swelled by the cost of extra provision to " reinforce " the system against the danger of recurrence of the power failures that took place last winter. (The extra capital investment is being put in now; but the safety margins that the industry considers really adequate will not be restored for some winters to come.)

Normally, the British electricity system, which is the largest single interconnected network in the world, supplies the extra power that is required during these coldest winter evenings and mornings of the year by running old power stations. During these comparatively few hours of the year it brings into operation generating plant that is idle throughout the rest of the year, most of it " time-expired " and some of it extremely costly to run. Power stations that were built 30-40 years ago are small sets which consume far more coal to generate a kilowatt-hour of electricity than the huge modern plants of today; the last few kilowatts of electric heaters switched on during a winter cold snap may well cost 3d to 6d a unit to generate in running costs, against little more than a halfpenny a unit from a modern plant on base load—and against perhaps 1½d a unit that the householder pays to have the electricity delivered to him.

It is perfectly logical to employ the generating capacity of the supply system in this way—using the best plant most continuously, the next best on " two-shift operation " for the main plateau of day demand, and so on down the " merit order " until one comes to the old plant that is used for only a few hours a year. But the rapid development of technology in this industry means, in such circumstances, a wide gap between the running costs of these best new plants and the old ones that work only at winter peak; and in recent years the question has often been asked whether there might not be cheaper ways of meeting the peak, by building new plant specially for the purpose.

Blaenau Ffestiniog opened

This is a question of high economic policy for the supply industry, and it has generally been answered up to the present, in the negative. But there are exceptions; and the Queen opened one of them last week. This is the new " pumped storage " hydro-electric station at Blaenau Ffestiniog in North Wales. Any hydro-electric power station is something of an oddity in the electricity system of England and Wales (though there are a fair number of them in Scotland). But the way that this one works makes it considerably odder.

Electricity cannot economically be stored in large amounts: that is the whole difficulty of the peak load, and why the industry has to keep in being enough plant to meet the whole maximum demand for power simultaneously whenever this occurs. Water, however, can be stored; and Blaenau Ffestiniog is designed to store electricity in the form of water. Crudely put, the station works by pumping water up a mountain at off-peak hours, and running it down again through a hydro-electric turbine to turn it back into electricity at the peak hours.

This new power station, accordingly, has been sited between two reservoirs—one an existing lake in Snowdonia, Llyn Stwlan, and the other an artificial reservoir in the valley 1,000 ft. below. The two are connected by twin vertical shafts 680 ft. deep, from which run four tunnels and pipelines, together some 4,300 ft. long, down to the powerhouse and pumping station. Both reservoirs and the connecting shaft-tunnel-pipeline systems have involved a considerable civil engineering job. Llyn Stwlan had a massive buttress dam built across its eastern side, about 100 ft. high and 1,000 ft. long at the top, in order to allow the water level in it to be raised by about 70 ft. The lower reservoir has been created by damming the mouth of a natural basin near the village of Tan-y-Grisiau with a gravity dam about 40 ft. high and 1,800 ft. long. The shaft-sinking and tunnelling work involved removing about 200,000 cub. yards of rock; a similar quantity had to be removed for the power station, which involved excavating some 80 ft. into hard rock to install the four water turbines.

Blaenau Ffestiniog is a 300-megawatt station, consisting of four 75 MW vertical Francis turbines, with separate pumps coupled to the turbines and alternators. The store of water-alias-power in the system consists of about 60 million cub. ft. (between the top level of water in the upper reservoir and the lowest offtake level, some 65 ft.). This will run down the mountain for about four to four and a half hours a day on winter weekdays; it will be pumped up the mountain between *(Continued on page 246)*

The Ffestiniog pumped storage-scheme. Foreground is the Tan-y-Grisiau reservoir. Centre is the power station and, upper background, the upper reservoir dam. Main civil contractors for the Tan-y-Grisiau dam and the power station were Sir Alfred McAlpine & Son Ltd.; for the upper dam and tunnels, the Cementation Group

POWER FOR WINTER

continued from page 245

midnight and 6.30 a.m. each of these winter nights. During each of these days, it will generate about 1¼ million units.

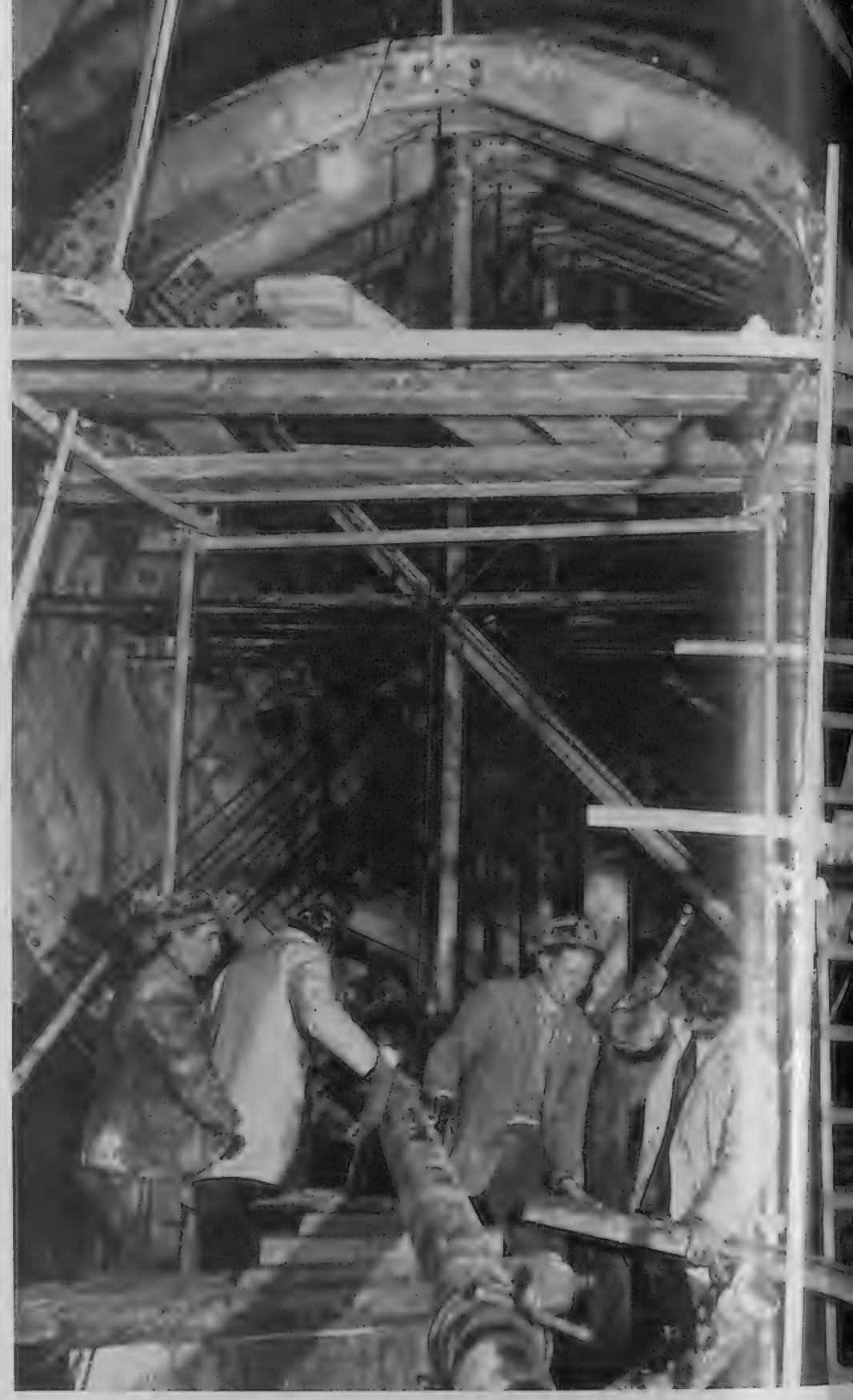
The idea of building a power station to operate for only about 300 winter hours a year, giving an annual "load factor" of about 3·5 per cent., is at first blush an odd one; and consideration of Blaenau Ffestiniog as a power station on its own makes no sense at all. The station produces very expensive power, compared with the kind of costs one can get from a new steam station; but it has to be compared with the kind of costs one has to accept, for similarly few hours a year, from extremely old steam stations. The calculation is a complicated one—not so much in figuring, as in deciding what factors to take into account in the comparisons. And it has to be admitted that since Blaenau Ffestiniog was decided upon, in the mid-fifties, the values on the steam side have changed considerably.

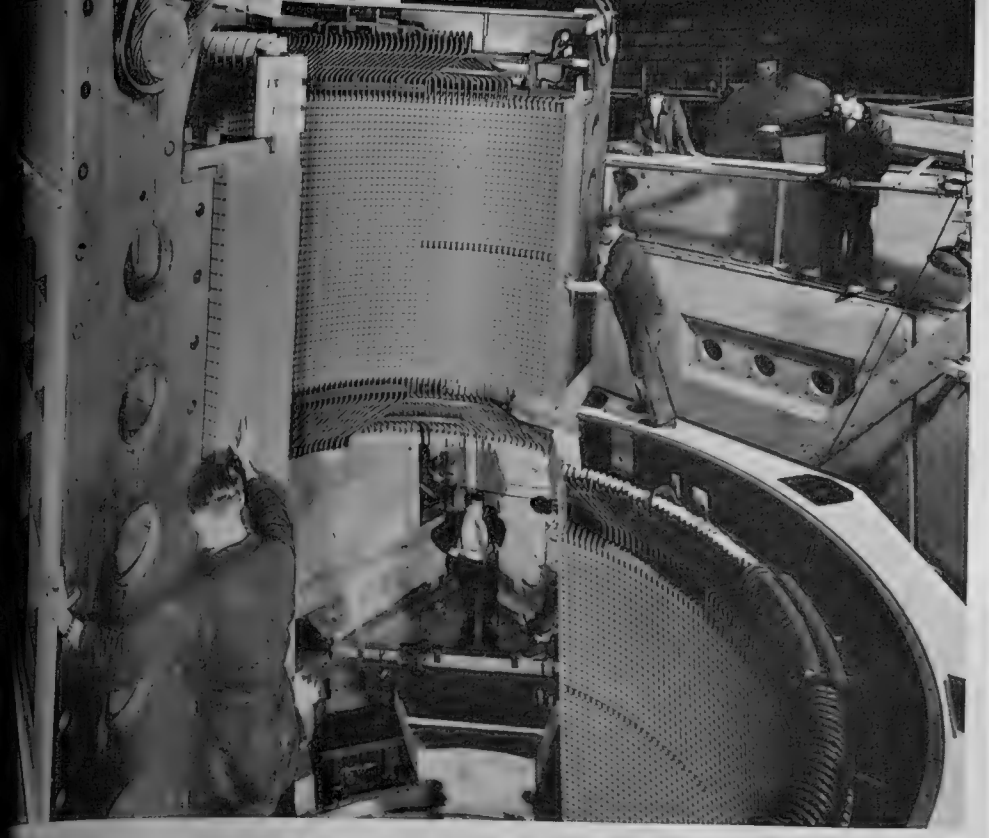
Pro and con pumped storage

As a hydro-electric plant, this station has naturally lower fuel costs (free water against costly coal) than generating the same power from a steam plant. Pumping the water up, however, takes power; that offsets the fuel saving. Getting power from this remote site—chosen from only a few sites in England and Wales where such a system could have been located—means some extra transmission costs in moving the electricity to where it is finally used. And in comparison with 300 MW of new steam plant, one has also to offset the fact that in its early years new steam plant could be used on base load, and would only gradually over the years be "retired" down to as low a load factor as the pumped storage plant has to accept.

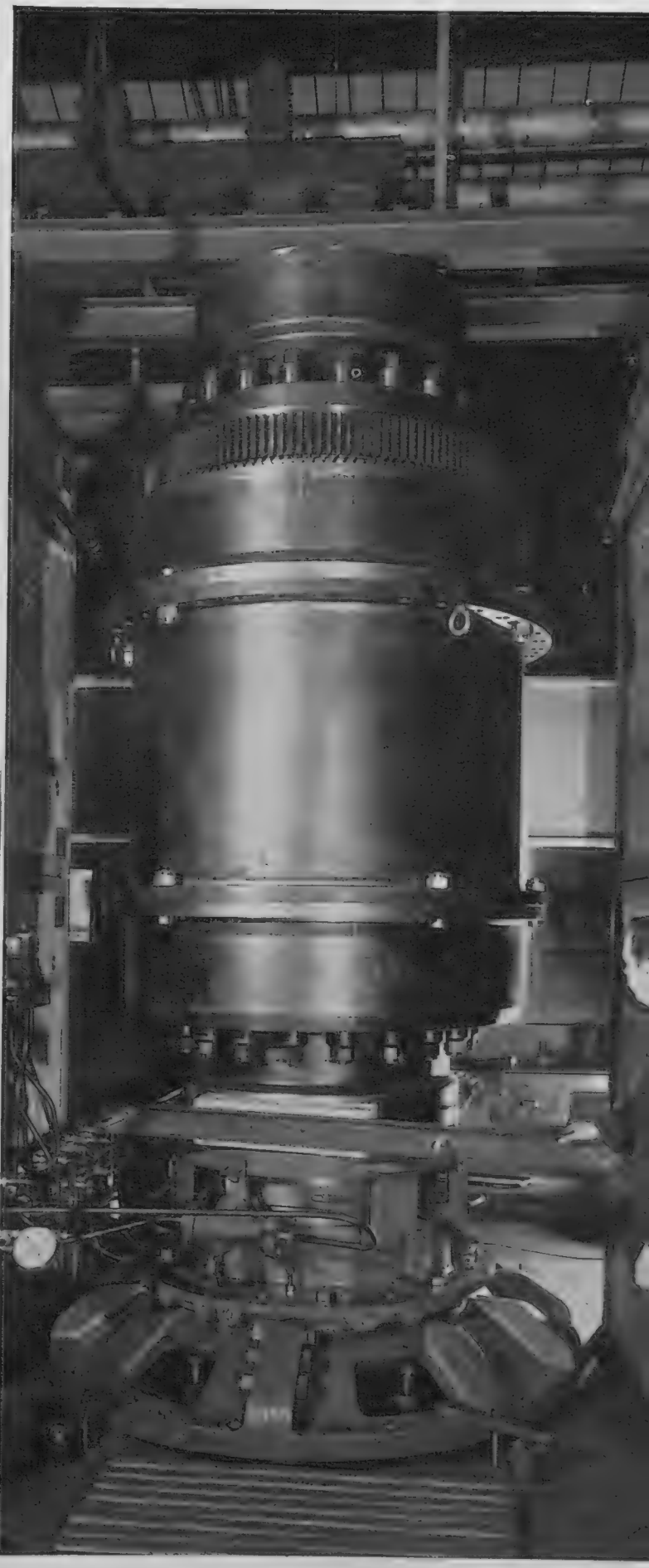
Finally, however, in favour of the pumped storage plant, there is the saving achieved by not needing to keep 300 MW of steam plant on "hot stand-by duty"—i.e. with steam pressure up in the boilers, as immediately available reserve capacity against emergency anywhere in the system. The pumped storage plant can be generating its full output within 20 minutes; in this role as an emergency reserve, it has a potential job all day and all year, not simply at winter peak hours. This role may involve it in an extra 700 hours of operation a year—making its load factor rather more respectable, but still only about 11·4 per cent.

Blaenau Ffestiniog has cost about £12½ million, or roughly £45 a kilowatt of output capacity. At the time that it was built, steam stations were costing about £65 a kilowatt—which gave a hefty saving in capital costs, to offset somewhat higher overall running costs. Since it was decided upon, in the mid-fifties, however, there has been a dramatic reduction in the cost of steam stations, simply by making them bigger and bigger; a number of stations recently authorised are to cost about £40 a kilowatt, and some may get down towards £30 a kilowatt. On this basis, unless comparable savings by installing larger units could be achieved for a hydro-electric scheme (which would have its own complications, and might not in any case be physically achievable in England and Wales), it would be difficult to justify putting in more pumped storage capacity of this kind, from now on. Nevertheless, Blaenau Ffestiniog itself has been a valuable experiment for the Central Electricity Generating Board—and a useful, comparatively infrequent exercise at home for the British engineering firms who supply hydro-electric power schemes all round the world.





Left: Lowering a half-stator into position during assembly of one of the four 75 MW AEI generators at Ffestiniog
Far left: At work on a steel-lined downstream section of pressure tunnel, constructed by the Cementation Group
Far left below: Early stage in the construction of the massive buttress dam for the Llyn Stylan upper reservoir

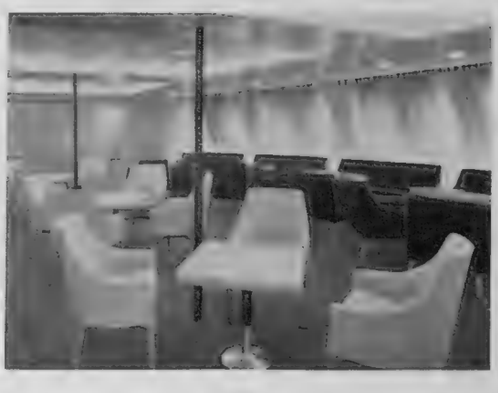


Above: Testing the coupling between the turbine and main pump for one of the four water turbine sets, manufactured by English Electric
Left: Inside the main control room showing the 12-panel console desk which controls the machine and feeder circuits. The board, left, controls the main hydraulic works and the one on the right low-voltage A.C. auxiliary supplies
Above left: AEI generator/motor lubricating oil equipment situated on the floor of the hydro-electric station

TO THE HOOK BY NIGHT

248 The S.S. *Avalon* (right), the largest vessel ever built for the British Railways fleet, recently joined the S.S. *Arnhem* and the S.S. *Amsterdam* on the Eastern Region's night service from Harwich to Holland. This ship of 6,720 gross tons replaces the *Duke of York*. She is fitted with the latest type Denny-Brown-A.E.G. stabilisers and has fully air-conditioned accommodation for 759 first- and second-class passengers, with 277 cabins giving sleeping berths for more than 600 passengers. A high standard of comfort and the most modern amenities are provided for both passengers and crew. A limited number of cars can be carried. Built by Alexander Stephen and Sons Ltd., Linthouse, Glasgow, the *Avalon* is 405 ft. long, and has a service speed of 21½ knots

The *Avalon's* combined wheelhouse and chartroom



The first-class lounge on the promenade deck

The second-class lounge on the promenade dec

MACHINE TOOL FALL

by The Sphere City Correspondent

While most economic indicators are slowly turning upwards, one or two remain obstinately down. In particular, the order book of the machine tool industry, a key guide to future capital expenditure, is continuing to fall. There has now been a drop in the industry's net order book every month for 17 months. The peak was in November, 1961, when orders on hand were worth £117 million (or just over a year's work at the then current rate of deliveries). Last April the order book stood at £77 million, or nine months' work at the current rate. Largest of the British machine tool manufacturers, Alfred Herbert, put over a thousand of its Coventry workers on a four-day week last week, because of a general falling off in sales.

The main reason for the deterioration in machine tool companies' prospects is that most manufacturers have now completed their ambitious expansion plans of 1960 and 1961 and are still waiting for an upsurge in consumer demand to take up spare capacity and put their plants on a more profitable basis. In particular, one very heavy spender on machine tools—the motor industry—had been engaged on an expansion programme unparalleled since the post-war rebuilding. For some time, therefore, its needs look like being satisfied with little more than replacement tools.

Until manufacturers' plant is working at or near capacity, and (more important) the board think they can see adequate future demand to justify building a new factory and equipping it with tools, then the prospects of machine tool companies will remain cloudy. Fortunately, foreign manufacturers are not caught in the same trade cycle as Britain, and in most cases orders for machine tools from overseas have been holding up well. But exports normally only account for a third of the total, and the relentless decline at home is what really sways the tool-makers' fortunes.

A striking feature of machine tool company performance—and a highly useful pointer for the shrewd investor—is that order books start falling long before deliveries slow down or actual profit figures show a setback. In fact, as orders begin to tail off, a company is often able to speed up delivery. For example, deliveries of machine tools in the latest available period—the 12 months ending in April, 1963—were worth £126 million, or 6 per cent. better than in the 12 months ending April, 1962. During the same period the outstanding order book had fallen by 30 per cent. But significantly, in the last two recorded months—March and April of this year—deliveries have actually been lower than the year before.

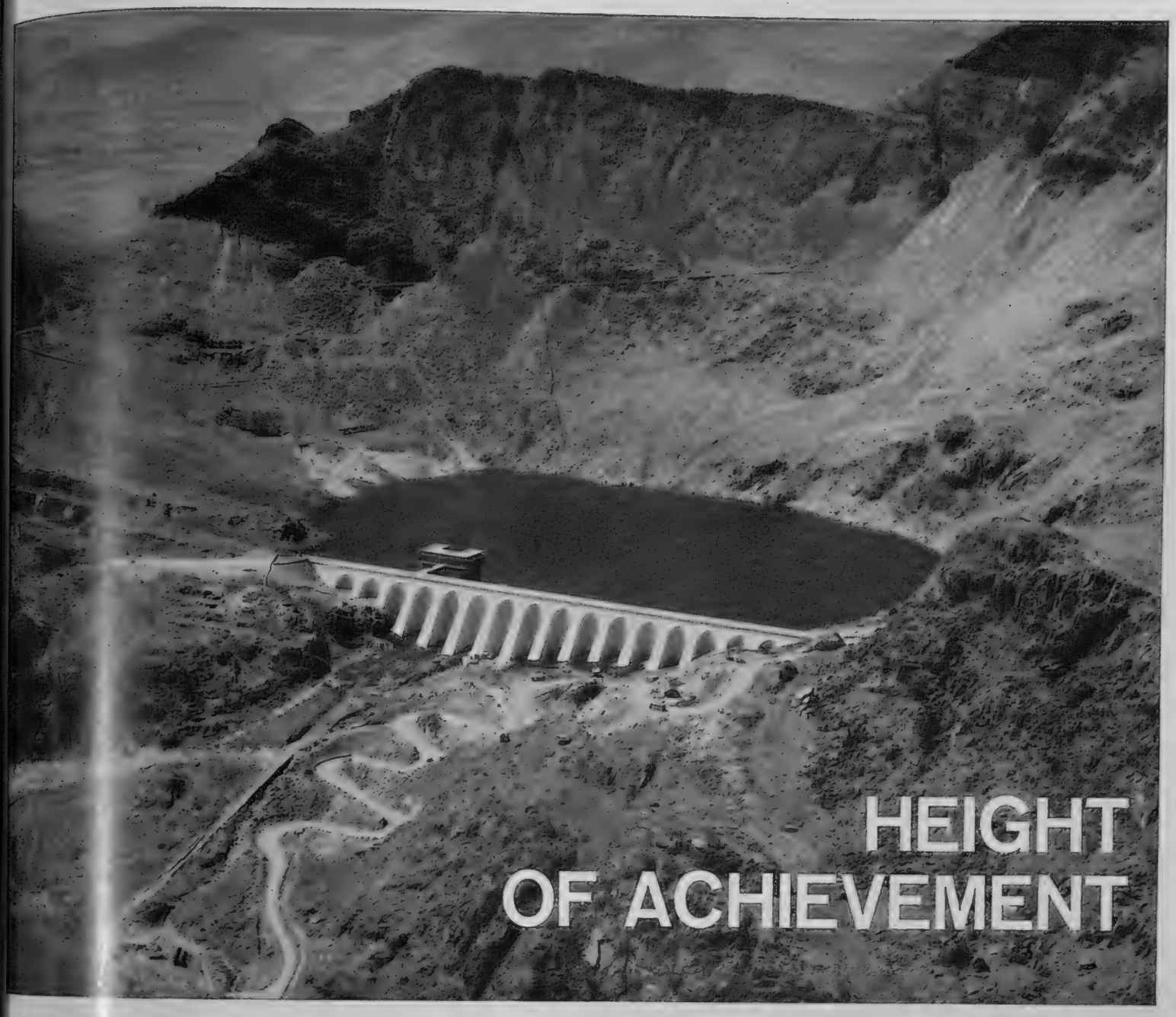
However, even though current deliveries are probably considerably lower than last year, paradoxically the reported profits of the manufacturers may continue to be good. This is because of the time lag—usually at least three months—between the end of a company's financial year and the announcement of its profits. Companies reporting now are referring to their years ended last April or May and this, as we have seen, was probably quite a good period. A consequence of this is that share prices of machine tools in the Stock Market tend to remain high in anticipation of good results long after the tide has in fact turned. It is noticeable that machine tool shares in general have fluctuated within 10 per cent. of a straight line for the past year.

But unless a dramatic turn-round occurs in new orders, and it is hard to see from th Government's satisfaction with the slow expanding economy why any extra stimulu should now be given, an improvement in machin tool company prospects seems unlikely befo the year-end. Machine tool shares, offerin only half a point more in dividend yield tha the market average and only two points mo in earnings yield, look over-priced.

Alfred Herbert has at least said it expects t have no difficulty in maintaining its dividen The question of course is what its profits wi be like for a financial year which has still thre months to run. Herbert tends to go in cycles— 1953, 1957 and 1962 were all peak years—bu 1962 was the first time the 1957 level had bee passed and it could well be that this year ther will once again be a marginal decline.

The next biggest quoted firm—Coventry Gauge—reporting an unchanged interim dividend in June, specifically warned that profits would not now reach last year's, though the dividend is being maintained. The Tap and Die Corporation, which reports as this issue goes to press, should maintain its dividend, but profit level is less certain. B. Elliott, one of the liveliest firms in the industry, has just reported good figures for the year ended last March, but has warned that recent home trade has proved disappointing while Asquith Machine Tool, taking into account current prospects in March, did not feel it could raise the dividend.

On balance, then, it looks as though investors in machine tool companies have little to go for over the next 12 months, and should perhaps consider selling their shares now with a view to re-buying when the industry's cycle starts on an upward trend once again.



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MIDLANDS MATTERS

by The Sphere Midlands Correspondent

250 How does one measure success? I was pondering this the other day after Birmingham Chamber of Commerce had announced its plans for a composite group exhibit of Midland products at the British Trade Fair in Zurich in September. In this case, is it the fact that the project has attracted a four-man firm from the suburbs to export to Switzerland for the first time? Or is it the support from a subsidiary of an international organisation with a multi-million-pound turnover? Both, surely, are flattering—and the best kind of indication of the increasing stature of the Birmingham Chamber under the zealous secretaryship of Robert Booth.

Since the Chamber gave up running the Birmingham end of the British Industries Fair at Castle Bromwich, with its aching aisles of concrete, it has increasingly turned its attention to the United Kingdom's first priority, exports. The first such venture was at Stockholm last year, as part of the campaign to develop exports to EFTA; not the least surprising thing about it was that inquiries came from as far afield as Monte Carlo and Mexico. In the Zurich project 18 firms making everything from electronic components and vending machines to pre-fabricated buildings and heat exchangers are concerned.

It is costing them between £80 and £200, by no means exorbitant when one considers that the Chamber will be staffing the stand and providing quick facilities such as Telex for following up inquiries. The Chamber has been devoting a good deal of study to this kind of development, and similar group exhibits are likely next year at the Barcelona and Sydney trade fairs. Perhaps in future "Made in Birmingham" will again become as commonplace as it was in the heyday of our industrial supremacy.

Minimising industrial noise

What an ever-present problem for manufacturing industry is the difficulty of noise! Often inseparable from the processes involved, in our closely packed cities it causes considerable hardship to those unfortunate enough to live near noisy factories. I was reminded the other day of how much progressive firms do to try to minimise the effects when I visited the new honing mill in Rocky Lane, Aston, Birmingham, of Tubes Ltd. The honing of steel tubes produces weird screams, no more pleasant for being irregular in pitch, volume and frequency.

In their £250,000 mill, built to meet the constantly rising demand for honed tubes for hydraulic pit props, earth-moving equipment, power steering, and many other forms of hydraulic or pneumatic systems, Tubes Ltd. have spent between £10,000 and £15,000 to deaden the noise. Special sound barriers along the walls and liberal use of noise absorbent materials inside have had some effect, but the works director, Mr R. R. Gilchrist, admitted that they had not solved the problem by a long way. But efforts are continuing, and research is going on at Birmingham and Glasgow Universities to try to find new ways of deadening the banshee wails, produced as the interior of the tube is highly polished by an abrasive process. Expansion has indeed brought its problems: "We aren't so much screaming bores as a howling success," one executive commented.

Mr James Halloran

Too much should not, perhaps, be read into the fact that Mr James D. Halloran, of Leicester University, the newly appointed secretary of the Television Research Committee, is also joint author of a book on capital punishment and penology. He is probably much better known in the wider field of education as senior tutor in the university's Department of Adult Education. He is a Yorkshireman who graduated from Hull University with honours in sociology and social psychology in 1951, taught in secondary schools and worked in the youth service, and was appointed four years ago to Leicester, where he is also visiting lecturer at the National College for the Training of Youth Leaders.

Sir Horace Clarke

Birmingham and the wider industrial world has lost a great pioneering spirit by the death of Sir Horace Clarke, honorary president and a former chairman and managing director of James Booth Aluminium Ltd. A Londoner, educated at Woolwich Polytechnic and Goldsmiths' College, London University, he pioneered the development in this country of duralumin, the light, strong alloy used in airships and, later, in aeroplanes; it made possible the first all-metal plane, the Silver Streak, built by Short Brothers in 1921. Sir Horace, who was 80 last January, was a past president of the Aluminium Development Association and a past chairman of the Aluminium Industry Council, and was first president, from 1945 to 1949, of the British Non-Ferrous Metals Federation. He was a life governor of Birmingham University.

GOOD LIVING

by Ganymede

Mateus Rosé, the slightly "petillant" fresh pink wine from Portugal, is an old friend; it has become remarkably popular in a relatively short time. I think the secret of its success is in the fact that it has a few little extra attractions compared to other rosé wines. It has an unusual, attractive bottle to start with and the slight prickly effervescence, for the lack of a better English word, called petillance, which enhances its youthful freshness. It is light, not too dry for the average taste, and goes equally well with fish or meat, giving the impression of thirst-quenching coolness on summer days.

Now Mateus Rosé has acquired a stable mate, a white wine, also from Portugal, which has many similar characteristics. Rawlings and Sons, the shippers of Mateus, have for some years been shipping this wine called Casal Garcia, which I have tasted several times and found very pleasant. It is a typical *vinho verde*. This means when translated, "green wine," but it is one of those terms, often found in connection with wine, which must not be taken too literally. It is not always descriptive of the wine's colour, for there are red wines of this kind as well. It is a name applied to wines of a limited area of Portugal, the Minho district in the North.

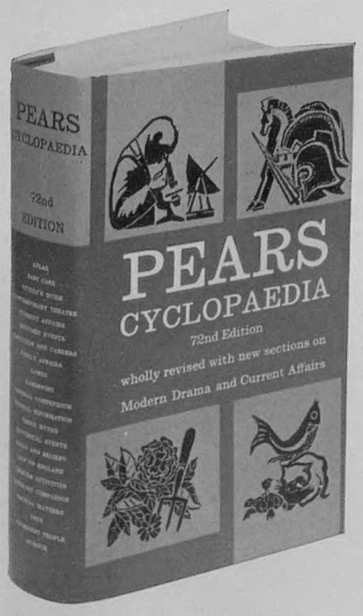
Vinho verde stems from Portuguese slang, and can only be explained by the fact that some of the white wines of this region appear to have a slight greenish tinge. In a more free interpretation, in addition to defining the place of origin, the name also suggests that these wines are best when drunk young. In years past, Casal Garcia was made from four types of grapes grown in the locality of Penafiel: Branco, Ersganosa, Murrao and Casçal. Although I considered this wine very agreeable, with its attractive dryness, especially as an aperitif wine, the shippers found that it did not altogether meet with the same universal approval of the British public as Mateus Rosé. At the suggestion of the shippers, experiments were made on the Guedes estate at Avelada with changing the blend of grapes used for making the wine.

The new Casal Garcia is the result of further blending with the wine of the Arinto grape, which is of the same family as Riesling. This makes it a fuller wine with an improved flavour and bouquet, with a shade less acidity. It is thought by the shippers that this meets the needs of British taste as much as Mateus Rosé does, and it will be interesting to see if it ever will match the other's popularity. Like its mate, Casal Garcia retails at 14s.

I tasted some interesting and seasonal white wines from the Loire Valley, shipped by Asher Storey and Co., the firm which specialises in the less "obvious" wines of France. Three vintages of Sancerre made the point beautifully that this wine is at its very best when one year old, no more. Compared to the 1962, the wine of the previous year had lost most of its freshness and seemed to be almost past it. As an exception to prove the rule, I also tasted some 1959 (of which I am sorry to say there is no more) which was excellent and has, if anything, benefited by bottle age, but that was an extraordinary year, and the wines were not true to type. Both '61 and '62 are available at about 16s 3d a bottle.

In the case of Pouilly Blanc Fumé, of which I tasted the '61 and '62, the position is quite different. This wine obviously needs at least a year in bottle, and in this case the 1961 was far the superior wine, although one can safely assume that the other will go on improving. In fact there is a good chance of further improvement for both. They retail at about 17s a bottle.

La Roche aux Moines from Savennières, in Anjou, was an even more outstanding example of a white wine which improves considerably with age. Of three vintages tasted, the 1957 was outstanding. It reminded one of the description attributed to Rabelais, who liked this wine and called it *Vin de Taffetas* (silk). The 1959 was too rich, not typical, but the 1961 shows great promise of things to come. The two latter can be bought at about 17s 3d a bottle, but the glorious 1957 is, alas, finished.



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THE WANKEL REVOLUTION

252 A car engine which goes round and round instead of up and down will soon be in commercial production in Germany. It will be used to power Germany's NSU Spider, a 100 m.p.h., rear-engined, two-seat sports convertible to be announced at the Frankfurt Motor Show next month. The engine is the rotary Wankel, an early prototype model of which was on view in London for the first time recently. Instead of the pistons used by a conventional reciprocating motor the Wankel has a triangular rotor mounted on an eccentric shaft. As it revolves inside a casing roughly oval in shape, the curved sides of the "triangle" form three chambers of ever-changing shape. These are used as combustion chambers and the Wankel uses the familiar four-stroke cycle of induction, compression, ignition and exhaust. The Wankel's rotary action gives it impressive smoothness and the absence of valve gear helps to make it remarkably uncomplicated and reliable, with a normal claimed life of 100,000 hours at least.

Other virtues which I am sure will help the Wankel to make big advances in the realm of the reciprocating engine in the next few years are its small size, compactness, extremely favourable power-to-weight ratio and ease of manufacture. The NSU Spider goes into production in the spring and, I am assured, will be on sale in Britain by mid-summer at a price, including tax, of "something under £1,500."

A tribute to Ford

Shortly after seeing the Wankel engine on show in a London hotel (with an ordinary NSU piston motor beside it to emphasise its compact dimensions) I went along to the Crystal Palace to see a demonstration which concerned a much earlier period of automobile development.

Graham Hill, whose world motor-racing championship looks like passing to modest, quietly efficient Jim Clark, was driving a car which formed a startling contrast to his 170 m.p.h. Grand Prix models: a replica, painstakingly built by Ford Motor Company apprentices at Dagenham, of the Quadricycle produced by the late Henry Ford in 1896. It was the famous man's first car—a 2-cylinder, two-speed contraption using bicycle wheels and with a top speed of 20 m.p.h. The Dagenham apprentices built the replica, largely from scrap metal, as a gesture of respect and admiration to commemorate the centenary of the birth of Henry Ford in Michigan on July 30, 1863.

Twenty students took 3,000 hours to complete their Quadricycle and that alone represents a cost of £1,500. It has tiller steering, weighs 500 lbs. and has a system of belts for changing gear. "The best way of braking is to decelerate the engine, though a foot jammed sharply against the tyres can be dramatically effective", one of the Ford apprentices told me at Crystal Palace. Graham Hill himself said he found the lack of brakes rather frightening. As a knowledgeable lover of machinery the racing champion treated the Crystal Palace try-out with suitable seriousness. This was no publicity gimmick, but a sincere tribute to a great man who put the world on wheels and showed industry as a whole—and not merely motor manufacturers—the benefits of mass production, and particularly the advantages of the moving assembly line.

Motorway links

I shall never tire, on this page, of bringing news of motorway developments, because the spectacular growth in Britain's motor vehicle population makes this type of road—hundreds of miles of it—something we cannot afford to do without. This week I am able to write about the missing link—or what *was* the missing link—in the problem of tying together, in the Birmingham area, three of our most important motor routes: M1, M5 and M6. The big question was how to extend M5 from Lydiate Ash, west of Birmingham, northwards to Great Barr, south of Walsall, to link with M6, which will sweep south from Dunston, past Walsall and down through Castle Bromwich and Coleshill before hitting M1 at Catthorpe, a little to the north of where M1 ends today.

It was originally intended to carry M5 on a viaduct along the line of the railway through Oldbury but this plan met with violet opposition from local interests and was abandoned. Now the eight-mile link, starting south of Quinton, will run northwards to Hurst Green where it will turn north-westwards to pass under the railway line near Penncricket Lane, Oldbury. Then it again turns north, crosses A4123 and A457, goes eastwards over the Birmingham Canal on a viaduct, cuts across the south-east corner of Kenrick Park and finally crosses A41 before linking up with M6. This route has proved less controversial. "It has not been possible," the Transport Ministry states, "entirely to avoid property demolition in this closely developed area but it has been reduced to a minimum by careful use of existing open space wherever it was available."

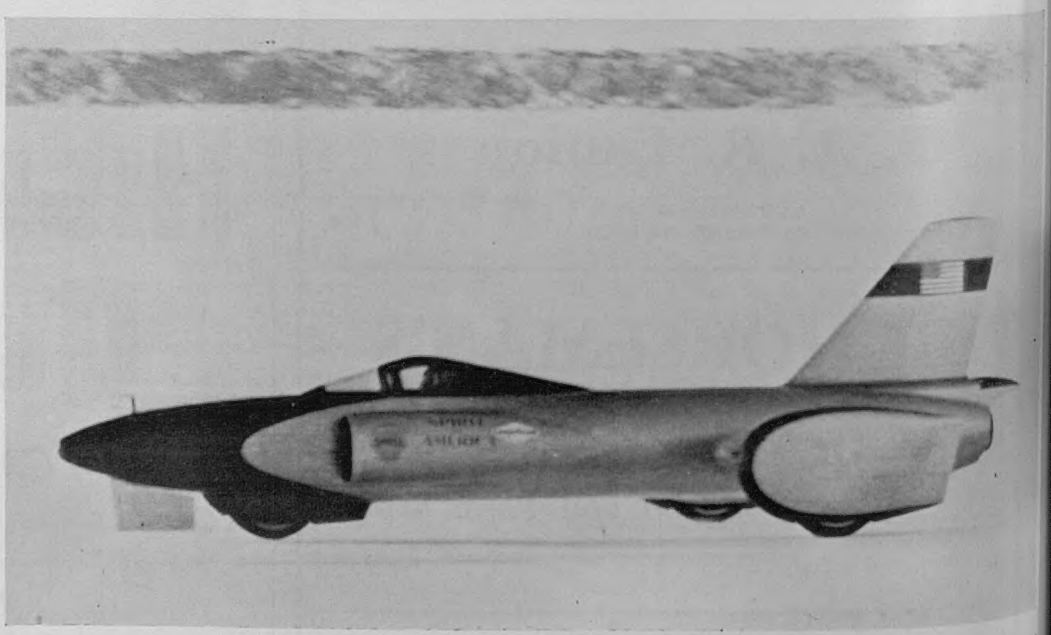
Car output up again

With a nice turn of phrase Mr L. G. T. Farmer, president of the Society of Motor Manufacturers, said that one of the main reasons for the boom conditions now prevailing in the motor industry was that the reduction of purchase tax on cars to 25 per cent. last November had "turned ambition into ownership for many people." The truth of this was shown by Britain's new car registration figures for the first six months of the year. They totalled 556,368, or more than 3,000 *every day*. The figure was more than 25 per cent. up on the first half of 1962.

This big domestic demand for new cars helps to explain why production is running at a rate which makes it look more than likely that 1963 will be a record year with a total output of cars eclipsing that of the industry's record year (1,352,728 in 1960). June's production of 165,077 cars represented a weekly output of 33,015 (compared with 25,330 a year ago) and in total an increase of 38,428 on the figure for June, 1962. The June figure increased to 803,099 the total car production for the first half of the year. It compares with 659,227 for the same period last year and 501,669 in the first six months of 1961. Production at this rate would not be justified by increased home sales alone and it was not surprising to learn that although June exports were fewer than in May this year or June, 1962, the total for the first half of the year was 306,700—an improvement of nearly 20,000 on the comparable 1962 figure.

Motoring notes

Cheltenham Borough Council are seeking Ministry of Transport approval (which Mr Ernest Marples has already given in advance) for operation of a parking disc scheme on the Paris model. . . . Stricter control of motor rallies is expected in the spring following the Transport Minister's appointment of a committee under Lord Chesham to advise him on his relevant powers under the 1962 Road Traffic Act. . . . Mr Allen Barke, Ford's managing director, blames home market restrictions, rising costs and labour troubles for the fact that his firm's profits fell 20 per cent. last year in spite of higher production. . . .



On Bonneville Salt Flats in Utah, Craig Breedlove in his jet-powered *Spirit of America* speeds over the measured mile to record an average for both directions of 407·45 m.p.h., an unofficial world land speed record

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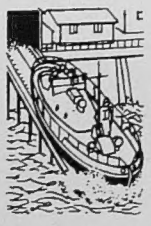

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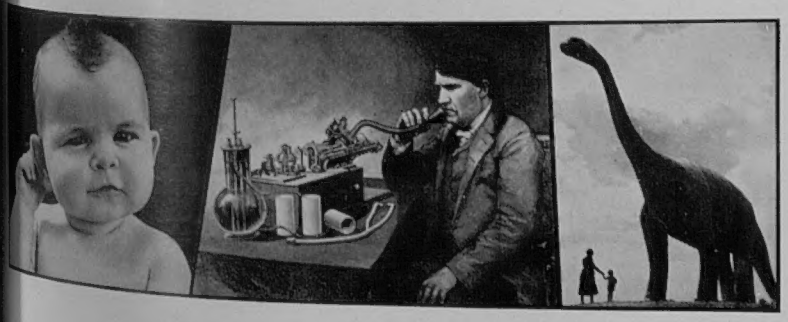

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